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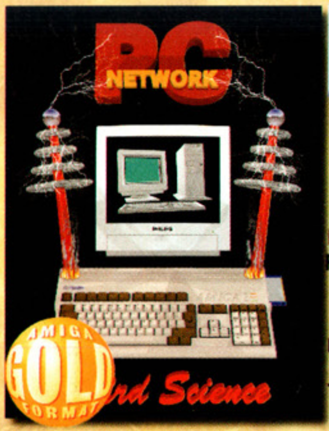
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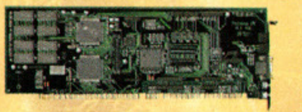


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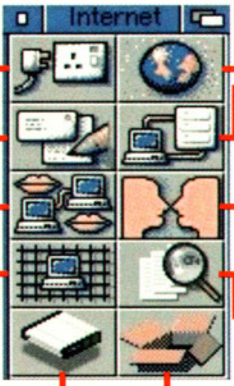
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All You Need For Internet And Comms!

netconnect v2

NetConnect v2 is even easier to connect to the Internet! Launch the new Wizard GUI, choose your modem, enter a few user details and let the Wizard do all the rest for you! Simple! With version 2 you don't even need to worry about the provider - everything is automatic, everything is point and click! ***Amiga Format*** concluded about **NetConnect v1** (June 97 issue): "Almost the perfect package for the Amiga Internet user", "If you need to get online, this is the easiest way to do it" and "It's good value for money too - especially the bundle including the 33.6K modem." We have listened to our NetConnect v1 users, noted their comments and added some other new features.

10 Commercial Programs within NetConnect v2!



AMITCP-GENESIS
NetConnect v2 users will be the first people to use this new TCP stack! Based on AmiTCP Pro, we have added a number of changes - new Wizard, MUI based dialler, multi-user support, 'events' control, status window (time on 'net, connection speed), new prefs.

MICRODOT-II
A superb combined email and newsreader within one GUI! Contains all the major features you would expect - MIME attachments, support for POP3/APOP, search function, multiple signatures, multiple user support, Arexx port etc.

AMIRC
Chat online with friends about topics, join conferences, organise mass meetings. The IRC is one of the most addictive elements of the Internet - AmIRC is the best Amiga IRC client.

AMTELNET
Telnet into remote computers (from anywhere in the world) - edit files on a computer in Germany from your Amiga, maintain directories for your web pages, check the status of the network, play online games.

AMTERM
AmTerm is a communications package which allows you to connect to a BBS, to another user (direct link), transfer files via a serial connection (Amiga<>Amiga, Amiga<>PC etc).

VOYAGER-NG
Voted the best Amiga web browser by CU Amiga - supports SSL for securing ordering, HTTP 1.1 (for the fastest web access) fastmem AGA support (use fast mem to store images) and very soon JAVA™, Javascript and AGA fastmem support!

AMFTP
AmFTP is the ultimate Amiga FTP client. Download/upload programs from any FTP site, also supports ADT to allow you to download the latest files from the Aminet and Archie to search FTP sites for files.

AMTALK
A direct chat client for the Amiga. Acts as an online answerphone service for people to leave messages. You can talk directly 'realtime' to friends on the Internet.

NETINFO
NetInfo is a cool tool for analysing the network and the people connected to it - 'finger' your friends to see if they are online, 'ping' servers to find the response speed.

X-ARC
X-Arc is the Amiga's answer to WinZIP™ - automatically decode LHA/LZX/ZIP files, edit the contents of these archives, create your own archives. Full integrates with NetConnect v2!

NetConnect v2 is a state-of-the-art Internet package aimed towards Amiga users wanting to connect for the first time (absolute Internet beginners), those who have been connected a few months (novices) and now, due to the keyfile nature of the software, is suitable for advanced Internet users who want to use the modules contained within NetConnect with their existing TCP stack. **NetConnect v2 enhancements include**:

- **Setup Wizard** - makes configuring your ISP a doddle. Choose your modem, enter some user details and then the rest of the process is completely automatic!
- **MIME Prefs** - Central MIME prefs interface means that you only need to setup file types once with on nice interface! This saves masses of time and effort (especially for beginners).
- **Control Manager** - A central control manager that allows you to store your favourite web and ftp sites, friends, email addresses, fax numbers and then use them within NetConnect modules - Voyager etc!
- **Multi-User** - Use Genesis/NetConnect with more than one user (a family) and log in on startup.
- **New programs** - AmTalk, NetInfo and X-Arc (a brand new WinZIP™ style archive management tool. Downloads lha/lzx/zip files from Voyager etc, auto-extracts them into X-Arc's GUI, manage the files).
- **Programs are now keyfile based** (can be used with any TCP stack - Miami etc)
- **Extras pre-configured**: MIME types (CD only), datatypes (CD Only), online help files etc
- **Dock bar** - allows you to create multiple dock bars with point and click ease - just drag the icons you have created into the icon bar! NetConnect v2 is pre-setup with its own icon bar for ease of use.
- **Programs are now keyfile based** (can be used with any TCP stack - Miami etc)
- **Printed manual** - understand NetConnect and the Internet quickly and easily (advice from NC users!)

NetConnect v2 CD	[contains many extras: datatypes, MIME types (for www browsing) and much more]	**£52.95**
NetConnect v2 Floppy Disks	[only contains the core programs & online help documents]	**£54.95**
NetConnect v2 Upgrade from v1	[registered NetConnect v1 users only]	**£call!**

vapor software

If you are not interested in purchasing NetConnect you can also buy Vaporware Products individually either by disk, a keyfile sent via e-mail (quickest and cheapest method) or on CD-rom (currently only Voyager-NG and Genesis can be purchased on CD-rom) - CD versions have added extras such as pre-setup MIME types (VNG), HTML documentation etc.

	On CD	By Disk	By EMail
Genesis - New TCP/IP Stack for the Amiga [Available December]	£28.00	£22.00	£20.00
Miami - TCP/IP Stack for the Amiga	n/a	£28.00	£26.00
Voyager Next Generation	£28.00	£22.00	£20.00
Microdot-II	n/a	£20.00	£18.00
AmIRC	n/a	£20.00	£18.00
AmFTP	n/a	£20.00	£18.00
AmTalk	n/a	£17.00	£15.00
X-Arc	n/a	£17.00	£15.00
AmTelnet + AmTerm Package Deal	n/a	£20.00	£18.00

- *5% Discount when 2-4 Vapor products are bought, 10% Discount for 5+*

internet informer

Still unsure about connecting to the Internet? Confused by all the acronyms such as 'ISDN'? Confused about the costs? Wondering whether your Amiga can access the Internet? No need to worry any longer - we have released issue 2 of our 'Internet Informer' for Amiga users. A leaflet that offers you all the information you require in order to get your Amiga onto the Internet. Modem choices, software that is available, service providers for the Amiga, questions and answers. It also contains information about NetConnect and what we can do to get you onto the Internet. For your free copy, call us or write to us.

high quality modems

Choose from two high-quality **branded** modems - the top of the range, award winning PACE 56 or the middle of the range Dynalink modem. Both come with a five year warranty. The PACE modem also ships with free lifetime technical support, UK caller ID (only modem available which supports this) and non-technical, easy to read documentation. The PACE is currently the best 56K modem you can buy, is UK produced and is recommended by the Internet press.

- **Quality branded PACE 56 voice modem**
- **56000 bps DATA/FAX/VOICE modem - true v34+ Throughput to 115,200 (230,400 for internal) BPS**
- **Group 3, Class 1 send/receive FAX (14.4)**
- **V.80 (video conferencing) capable**
- **Call Discrimination**
- **Fax on demand**
- **UK Caller ID**
- **10 LED's for full status monitoring**
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- **Speakerphone for hands-free operation**
- **Upgradable ROM chip**
- **On/Off switch to rear of unit**
- **Includes headphones/microphones - for voice control**
- **5 year warranty**
- **Serial cable included (with 9 & 25pin connectors)**



The above specifications are for the PACE 56K external voice modem. Dynalink 33.6K and 56K are very similar, except for the UK Caller ID support.

Dynalink 33.6K External Voice/Fax/Data Modem	**£79.95**
Dynalink 56K External Voice/Fax/Data Modem	**£99.95**
PACE 56K External Voice/Fax/Data Modem	**£129.95**

modem pack options

Various money saving packs are available. These are all based on either the Dynalink 33.6K or 56K and PACE 56K modem option. Call us for other pack options.

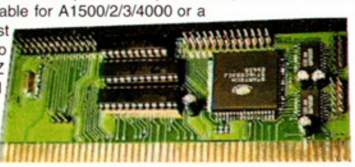
Code	Pack Contents	£ Prices
PK01	33.6 Modem & STFax	£ 89.95
PK02	33.6 Modem & NetConnect	£109.95
PK03	33.6 Modem & NetConnect & STFax	£119.95
PK04	33.6 Modem & NetConnect & Hypercom1 & STFax	£149.95
PK05	33.6 Modem & NetConnect & Hypercom3Z & STFax	£169.95

ADD £20 for a Dynalink 56K Modem (instead of the Dynalink 33.6K)
ADD £50 for a PACE 56K Modem (instead of the Dynalink 33.6K)

- All packs come with one month free connection to a major Internet Service Provider
- Choose between the CD or Floppy disk version of NetConnect with your modem pack
- Internal modem available - ISA card suitable for the Boxer.

high speed serial cards — new models! — from.. £44.95

The ***Hypercom*** range of high-speed serial cards offer your Amiga the fastest connection to the Internet, for comms and fax transfers. Available for the Amiga 1200 (these serial cards are placed within the internal clock expansion port - leaving the PCMCIA port and trapdoor free!), A1200 Towers and Zorro-II/III based machines (Zorro version suitable for A1500/2/3/4000 or a A1200 tower). These cards are currently the fastest serial cards available for the Amiga (upto 460,800bps connection). The Hypercom 3/3Z cards also ship with a buffered high speed parallel port which will drastically improve printing speeds on a laser (4x speed). The Hypercom 3/3Z cards contain a 9-pin and standard 25-pin serial ports whereas the Hypercom 1 ships with one 25-pin port. Serial and parallel drivers included. English documention.

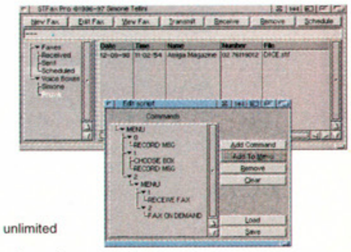


Hypercom 3Z

Model	Machine	Specifications	Price
Hypercom1	A1200	1 x 460,800bps highspeed buffered serial port	£44.95
Hypercom3	A1200T	2 x 460,800bps highspeed buffered serial, 1 x 500K bytes/sec parallel port	£89.95
Hypercom3Z	Zorro-2/3	2 x 460,800bps highspeed buffered serial, 1 x 500K bytes/sec parallel port	£79.95
Hypercom4	Zorro-2/3	4 x 460,800bps highspeed buffered serial ports	£99.95
Hypercom3i	Zorro-2/3	Expansion module for Hypercom 3Z/4 offering 2 x 460,800bps high speed buffered serial, 1 x 500K bytes/sec buffered parallel port.	£59.95

stfax professional £29.95

STFax Professional is new commercial fax program for the Amiga containing the sort of advanced features you would find within commercial PC fax software. STFax has been in the shareware for the last few months, and the brand new commercial "professional" version offers even more advanced features plus voice control for voice modems - use your Amiga as a digital answer machine, create a fax on demand service (ideal for small businesses. Allows your customers to contact you at any time and use fax on demand to remotely download facsimile information about your products!) and create advanced voice control scripts.



- **Full Fax Features:**
  - Support for all fax/modem classes (1, 2, 2.0)
  - Phonebook (store all your favourite fax and telephone numbers)
  - Scheduler (store fax messages to be sent at specified times)
  - Reports (quickly see when a fax was sent and received)
  - Datatypes support for image conversion
  - Printer driver to redirect all print-outs to a fax file (print from Wordworth, Pagestream etc!)
  - Viewer for viewing outgoing/incoming fax messages
  - Fax forward (forward faxes to another machine)
- **Advanced Voice Features:**
  - Use your Amiga as an answer machine (digital messages, unlimited storage space!)
  - Advanced voice scripting - create your own voice network or fax on demand service
  - Use your modem as a telephone (make and receive calls via STFax Pro and your modem)
  - Remote access (listen to your messages from an external source. ie. from another country!)
  - Caller-ID (see exactly who has called and left you a message)
- **Your Own Mini-BBS:**
  - One or more secure 'doors' (access areas)
  - Point and click setup
  - Allow users to upload files and send messages
  - Custom greetings and menus

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Month **In View**

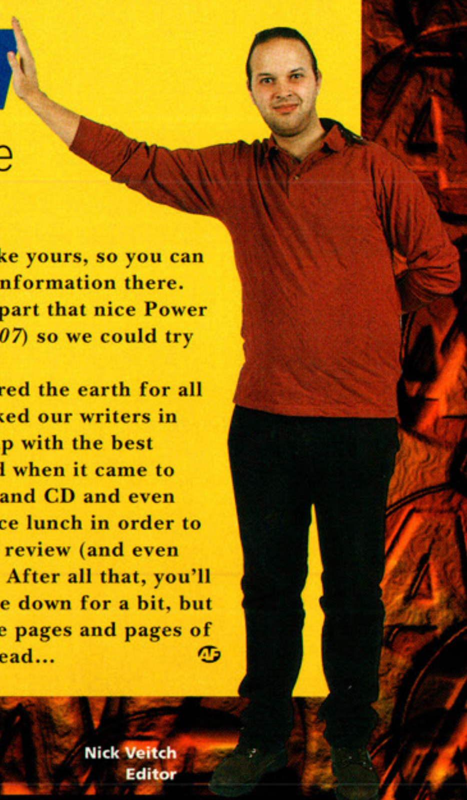
For some reason **Nick Veitch** thinks you'll care that he has been working extra hard this issue…

It hasn't been easy putting together this month's issue of *Amiga Format*. Basically, we've bent over backwards to give you the best of everything. On the CD this month we have the full version of *UFO: Enemy Unknown*. This required quite a bit of effort because we had to set it up on the CD so you could play it from there or install it. It would be pretty pointless to give you a complete game like this without giving you the manual too. Not ones to shirk away from a little effort, we translated the whole thing, including tutorials, into an AmigaGuide document that you can read at your leisure. What other magazine would do that for you?

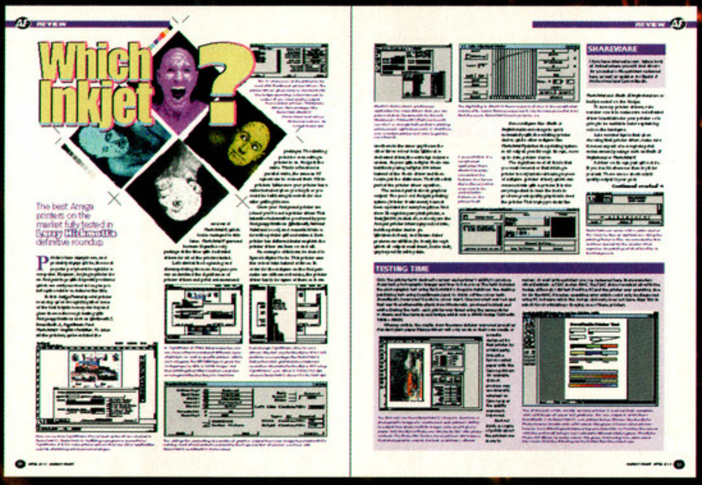
Indeed, what other mag would bring you an exhaustive test of all the latest inkjet printers? These printers just keep getting cheaper and better, but getting good results from them on an Amiga can be a bit tricky depending on the software support. Our guide is obviously based on their performance when connected to a computer just like yours, so you can be certain to find some useful information there.

We even spent days taking apart that nice Power Tower system we reviewed (*AF107*) so we could try out all the new add-ons.

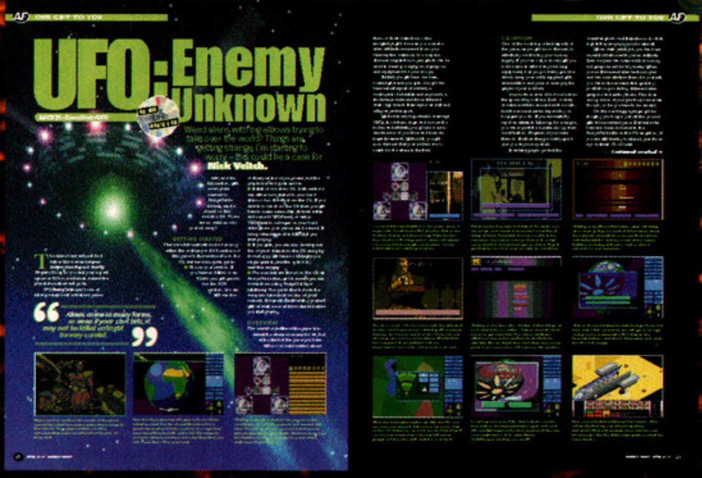
And of course we have scoured the earth for all the new products to review, locked our writers in small cubicles until they came up with the best tutorials, left no stone unturned when it came to sourcing material for our disks and CD and even subjected ourselves to a very nice lunch in order to secure a copy of *Wordworth 7* to review (and even some to give away on page 27!). After all that, you'll excuse me if I need to go and lie down for a bit, but don't you hang about – there are pages and pages of the world's best Amiga mag to read…



Nick Veitch
Editor



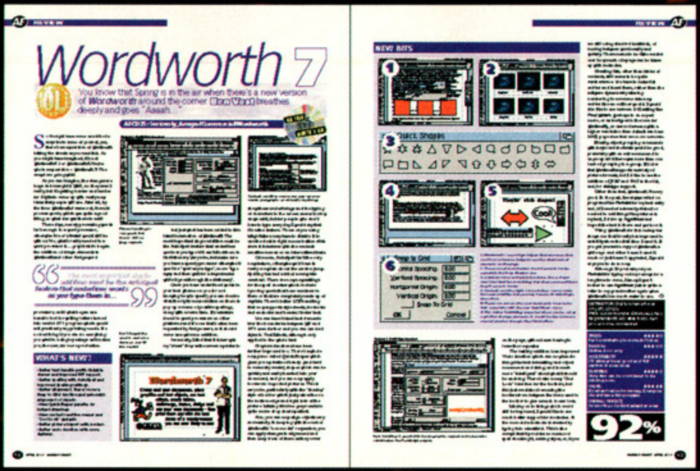
PRINTER ROUNDUP PAGE 16
The salesman in your local PC shop can probably extol their virtues for hours, but how do they look on paper – paper that has been printed on using an Amiga?



UFO ENEMY UNKNOWN PAGE 28
It's possibly the best turn-based strategy game ever, and it's yours here! Not only that, but all the manuals are on the CD and our quick-start guide is in the mag!



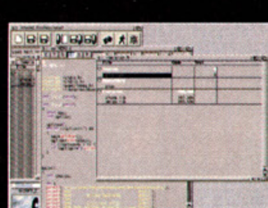
TOWER STUFF PAGE 58
There's no point in having a tower unless you have lots of lovely things to put in it. There's three pages of superb kit to drool over here.

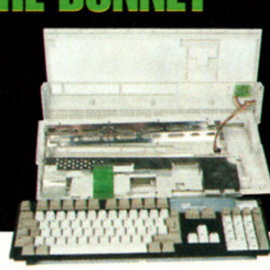


WORDWORTH PAGE 62
The Amiga's best-known wordprocessor has had a bit of an upgrade, and it's by no means just a case of adding a few bits and upping the number either.

AMIGA FORMAT Contents

ISSUE 109 APRIL 1998





Find out what is really going on inside your Amiga.

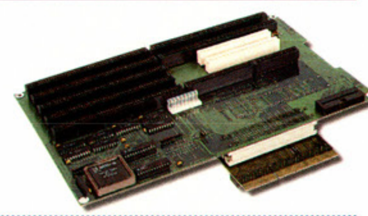
Not only have we got a review and a demo on our CD of the latest version of this fantastic Amiga word processor, we've also got seven copies to give away! Turn to page 27 now.



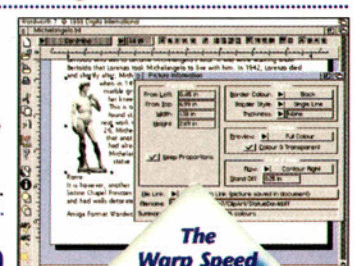
WORDWORTH AF Competition!



TRS-80 *Galaxy Invasion*, from way back in 1980.

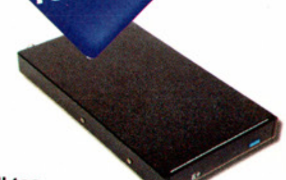


Now you've got your great Power Tower, you'll need all the best add-ons too.



Wordworth has many DTP capabilities.





They look good and perform well too.

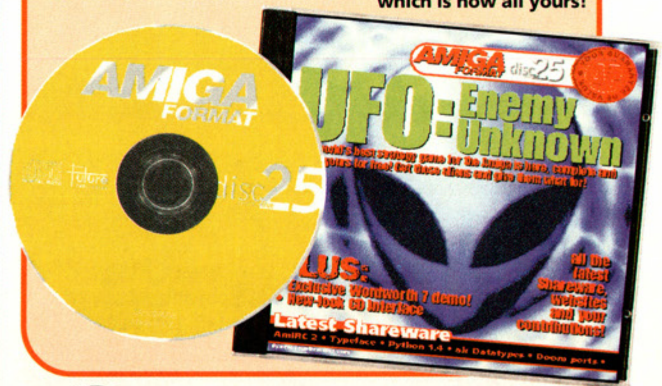


Crime prevention using A1200s.

COVER STORY

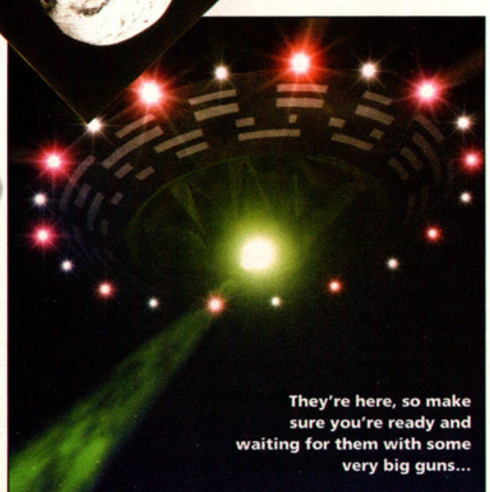


CD-ROMS

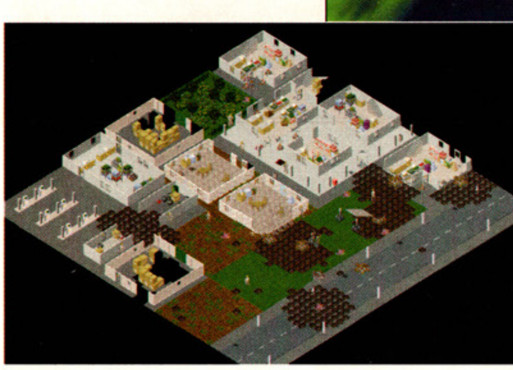


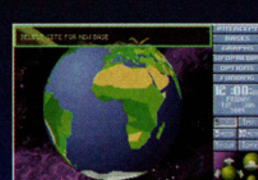
COVERDISKS





They're here, so make sure you're ready and waiting for them with some very big guns...













Run your own theme park in, erm, *Theme Park* (left) and run around killing things in *Quake* (above).

SCREENPLAY

AMIGA News FORMAT

WHAT'S UP?

World of Amiga Show UK
All the details of this great show.

BoXeR goes PPC
PPC support as standard on new boards.

Emulation news
How Amigas are helping PCs and Macs.

The show must go on!



Amigans longing for a show to go to this spring will be very pleased to hear that the World of Amiga show 1998 is going ahead.

The show will take place in the usual venue in Hammersmith's Novotel on the 16th and 17th May. If you're worried about missing the FA Cup Final, never fear, because the organisers have arranged for a large-screen TV to broadcast the event live in one of the adjoining rooms free of charge. Now you can truly enjoy one of the best football events in the world while you attend one of the best Amiga ones.

The show looks like being a busy one with Amiga Inc. taking a large stand as usual. Other exhibitors worth a mention include Power Computing, Epic Marketing, Active Technologies, Eyetech and the possibility of phase 5, Haage and Partner (sparks should fly), ClickBOOM and plenty of others.

The international AAA awards will also take place at the show on the Saturday, for the world's best Amiga products – between 1st March through to 31st March, the public voting for the AAA Awards 1997 will be open! Cast your vote for those you feel have done the most for the Amiga during 1997 at http://www.aaa-awards.org or by telephoning Sweden on 0046 90 710020

Entrance to the show will cost £7.50 for adults and £5.50 for children under the age of fifteen. For tickets to this fine event you should ring the hotline on 01369 708029.



This year's show could be even bigger than WOA 1997!



> "The show looks like being a busy one, with Amiga Inc. taking a large stand..."

Diary

What, there's more?
WOA98 in London is not the only Amiga show in the world during this time of the year. If you're a bit of a globetrotter, you may be interested in visiting any of the following:

- Saku 98, March 28th, Vantaa, Finland. http://batman.jytol.fi/~saku/saku98/english.html
- AmiTech 98, April 3rd-5th, Stockholm, Sweden. http://www.canit.se/amitech/
- MTT 98, April 25th-26th, Trier, Germany. Details to follow.
- International Amiga 98, May 29th-30th, Toronto, Canada. http://www.randomize.com/ia98.html
- AmiWest, July 11th-12th (Developer days 10th-14th July), Sacramento, CA, USA. http://www.sacc.org/amiwest/
- BSE 98, August 7th-9th, Diepenbeek, Belgium. http://bse.base.org

PPC for BoXeR?



Mick Tinker's BoXeR is to have phase 5 support.

Earlier this month, Blittersoft announced that their BoXeR motherboard, developed by Index Information, would be the subject of a joint venture with leading German hardware company phase 5.

As a result of this co-operation, the BoXeR system will be shipping with a PowerPC expansion slot, on which a PowerPC-based accelerator can be installed. This will be fully software compatible to the PowerUP accelerators from phase 5 Digital Products.

"We are pleased that our co-operation will further support the migration of the Amiga towards the PowerPC and that we can provide a unified interface for software developers and for the users. By use of a compatible API (Application Programmers Interface) it ensures that software developed for PowerUP will work on the PowerPC accelerators for the BoXeR, making it even more attractive for Amiga software vendors to support this standard.

This co-operation helps strengthen an emerging standard which will allow a wide range of breathtaking new products," says Wolf Dietrich of phase 5.

He points out that the PowerUP technology which will be used in the PowerPC accelerators for the BoXeR is the base for a new generation of high-tech products, such as CPU cards with multiple PowerPC processors and full multiprocessing software support, which should be appearing later in 1998.

> *This will allow the availability of powerful and inexpensive high-resolution 3D graphics cards for the BoXeR.*

Additionally, the BoXeR will incorporate a graphics card expansion slot which is compatible with the one that is available on phase 5's CyberstormPPC and Mk III accelerators. This will allow the availability of powerful and inexpensive high-resolution 3D graphics cards for the BoXeR.

"By jointly choosing a common performance level for the next generation of GFX cards, together we can set a unified minimum standard which software developers can rely on," adds Dietrich. "This will quickly increase the number of applications using the highest resolution and the hardware 3D acceleration, including quite a number of fascinating new games."

Paul Lesurf of Blittersoft said, "Whilst the BoXeR is very much a product to provide a diverse range of Amiga systems, we feel it is important to maintain compatibility with the leading edge peripherals.

"phase 5 products fit into that category, and we hope this co-operation will be the first of many, allowing the Amiga community to receive the BoXeR design with even more confidence."

Mick Tinker of Index commented, "We are very pleased to announce the ongoing work to increase the flexibility of the BoXeR and the work with phase 5 will allow us to deliver a wider range of performance options to the customer."

Systems will be available with performance starting at the 68040 25MHz, through all the speed options up to the 68060 66MHz and on to single and multiprocessor PowerPC systems with massive performance levels. All this will be available at the time of purchase or as user upgrades.

The modern design of the BoXeR motherboard will allow the full benefit of the PowerPC to be utilised by providing a 64-bit path to onboard memory."

More details can be found at Blittersoft's website at www.blittersoft.com, or by calling them on 01908 261466.

Talking heads

What have the *Amiga Format* staff been doing this month?



Nick's favourite Amiga product of the month is the Zorro daughterboard for his A1200 Power Tower system (and all the other bits). Favourite film: *Titanic*, but only for the *Lightwave*-generated sinking sequnce.



Ben's favourite product of the month just has to be *Quake* – especially since he's the only one in the office with a machine powerful enough for it. Favourite film would be *Grosse Pointe Blank* – best film last year at the flicks, best this year on vid.



Mark's favourite product of the month was the ace *UFO* and he's spent the rest of the time listening to obscure indie bands nobody else has ever heard of (oh, and some Burt Bacharach) while pretending to do some work.



Andy's favourite game of the month is a reader submission, but he's undecided whether it's the Prodigy Tamagotchi or the Roulette simulation. He's been watching: *The Hustler*



Colin likes his movies simple. *Boogie Nights* is still his favourite. His favourite Amiga product was probably *UFO* since Nick did all the work laying it out. As for music, *Motorhead* has been on his earphones most of the month.



Mr Kennedy has been far too busy playing with his telescope to watch any films or use any new Amiga equipment, but he has been listening to Pink Floyd's *Astronime Domine* quite a bit, if that helps.

GTI CHARTS

TOP TWENTY AMIGA CD-ROMS

1	(-)	Aminet 22
2	(3)	Aminet Set 5
3	(5)	Amiga Format CD 21
4	(-)	Amiga CD 1/98
5	(7)	Amiga Forever
6	(1)	Aminet 21
7	(11)	Personal Paint 7.1
8	(9)	Cygnus Ed Pro v4
9	(16)	Amiga Developer CD
10	(14)	pOS Prerelease
11	(12)	Textikon
12	(8)	Tele-Info Vol. 2
13	(-)	Personal Suite
14	(17)	Aminet Set 4
15	(6)	Aminet 20
16	(13)	Aminet Bumper Bundle
17	(-)	Amiga Web Offline 1
18	(24)	Wordworth 6
19	(18)	Aminet Set 3
20	(10)	APC&TCP CD 5

Continued overleaf ➡

Why Amiga Format is so great

■ *Amiga Format* only reviews finished products so you can be sure that the review you read is based exactly on what you'll get when you buy what we recommend.

■ *Amiga Format* has the most experienced Amiga team working on it of pretty much any magazine in the world, with a combined experience of over 30 years with the Amiga. We always check our facts with leading experts in the area so you can be sure that we're telling you the truth about the products we talk about.

■ *Amiga Format* is up-to-date. With thirteen issues a year, *Amiga Format* brings you the news as quickly as possible, along with the very latest Shareware and utilities on our CD.

■ Our CD is the best on the market. Not only is it user-friendly, with programs written especially for us by the excellent Oliver Roberts, such as *AFCDFind* and *AFCDView/Prefs*, its layout is consistent and yet it is constantly improving.

■ Our reader interaction is the best in the world. We always have more reader submissions to our CDs, letters and problem pages than any other magazine. We are approachable and easy to contact (we have a reader hotline on a Tuesday for your Amiga problems and email addresses where you can reach us instantly), and we are always ready to listen to your suggestions on how to make the magazine and CD better.

CONTACTS:

If you want to contact *Amiga Format*, here are the easiest ways in which you can do it:
Telephone (01225) 442244 only on Reader Call day (Tuesdays)
Fax (01225) 732341
General email

amformat@futurenet.co.uk

Please put the topic as the subject of your email. Emails with subjects like "Mailbag" or "Workbench" get read. Emails with subjects like "What I think" get sorted to NIL:

Feature ideas or review requests: If you are working with your Amiga professionally and are interested in a feature on what you do, or you've found a product we haven't heard about and want us to review it before you part with your hard-earned cash, then email bvost@futurenet.co.uk or call *Amiga Format* and ask for Ben Vost.

LONG TERM TEST SUBMISSIONS

Long term tests should be emailed to bvost@futurenet.co.uk, or sent to:
Long Term Tests, Amiga Format, 30 Monmouth Street, Bath, BA1 2BW.

READER REQUESTS

Reader requests should be emailed to bvost@futurenet.co.uk with "Reader Request" as the subject or you can send your request to the following address:
Reader Requests, Amiga Format, 30 Monmouth Street, Bath, BA1 2BW.

AMIGA ANGELS

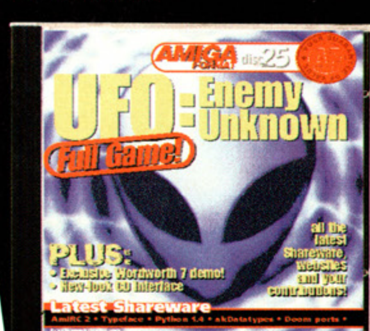
If you wish to be added to the list of volunteers who will help with any Amiga problems, then email bvost@futurenet.co.uk with the subject "Amiga Angels". You can also register by snail mail at the following address:
Amiga Angels, Amiga Format, 30 Monmouth Street, Bath, BA1 2BW.

ANYTHING ELSE RELATED TO THE CD

If you have comments about our CD, or you are having problems with it, then you can email bvost@futurenet.co.uk.

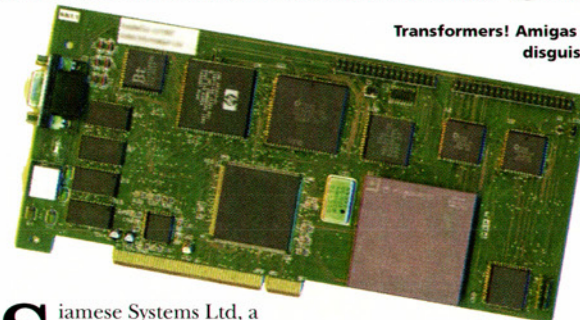
If you want to see your work on our CD then read the Submissions Advice html page on the CD. You can find it by double clicking on the Ben_Speaks! icon. Make sure that you follow all of the instructions.





Delivering the best for you and your Amiga – thirteen times a year!

Mac on PC thanks to Amiga



Transformers! Amigas in disguise!

Siamese Systems Ltd, a new company founded by Steve Jones of HiQ Ltd. have announced their long awaited Mac emulator for the PC. Why is this interesting to Amiga owners? Because that Mac emulation is going to be provided by the best Mac emulator in the world – the Amiga.

This will work by bringing together the PC with a Siamese PCI 68040/'060 migration card which will, with suitable Siamese software, run all existing 68K-based Apple Mac software, but as tightly integrated with Windows95/NT as the current PC-Amiga Siamese system is.

This card, designed by Index Information's Mick Tinker, is essentially a fully-blown Amiga on a PCI card, and the Mac software is run through emulation, together with the Siamese system. The plan is for the PC/Mac owner not to know this at first, since it was felt that this would lower the product's credibility in the eyes of the PC-owning world.

Steve Jones of Siamese Systems said, "We really wanted to use this like a stealth bomber. We sell it with the aim of getting Mac owners to get PCs, then later on, voila, we tell them that they've also got Amigas. It should really boost the Amiga market." The emulation software to be used for the Mac is undecided as yet, but is likely to be either *Fusion* or *Shapeshifter.*

Although naysayers will point at the fact that the card will be limited by only being based around the 68040 or '060, the truth of the matter is that a 68K Mac can still hold its own against a large number of existing Mac PowerPC systems and one based around the 68060 will be considerably faster than those built around the first PPC chip, the 601.

The emulation will also benefit from the fast PCI graphics cards, sound cards and other peripherals that the Siamese system can integrate from the PC. It will offer higher resolutions in more colours than an average Mac can currently offer, without forcing the Mac user to go for expensive dedicated solutions that they've had to put up with in the past.

If you want to find out the latest information about this system, or other Siamese projects, then surf to http://www.siamese.co.uk.

Mad Sciontists required!

Vulcan Software's programming team, responsible for the great-looking real-time strategy game *Almagica: Scions of a Forgotten Realm*, DSP, are looking for talented Amiga programmers to join their team. Various programming tasks are available that cover:

AI sub-system, communication sub-system, GFX sub-system, music/sfx sub-system, Main system.

Full details of the requirements are explained in depth on the Vulcan website at http://www.vulcan.co.uk or you can contact one of the following DSP team members.
Björn Hagström – orgin@hem2.passagen.se
Jimmy Westerlund – mh0213jw@midnet.telia.com
Fredrik Svensson – digital1@algonet.se

AMIGA FORMAT Reader survey 1998

in association with Power Computing



Dear Reader,

Welcome to *Amiga Format*. It's our aim to provide you with the type of Amiga magazine you really want to read. To help us achieve this we'd like to find out a little bit more about you and your lifestyle, so we've drawn up this questionnaire. We'd be very grateful if you could take the time to read the magazine and then fill it in and return it to us.

As a special bonus, all the questionnaires returned to us by Friday 24th April 1998 will be entered into a prize draw. The first one taken out of the hat will win a Power Tower, and the main prizewinner and ten runners-up will win a year's free subscription to *Amiga Format*.

Whatever you thought of *Amiga Format*, we'd like to hear from you. But please be honest – your answers won't affect your chance of winning.

Many thanks for your time and help.

Best wishes

Nick Veitch
Editor

ABOUT AMIGA FORMAT

1. How long have you been reading Amiga Format?

This is my first issue	1 ☐	3-4 years	5 ☐
2-5 months	2 ☐	5-6 years	6 ☐
6-11 months	3 ☐	Over 6 years	7 ☑
1-2 years	4 ☐		

2. How did you get this copy of Amiga Format? (Please tick one box only)

Subscription	1 ☐
Delivered by newsagent	2 ☐
Bought at newsagent on order	3 ☐
Bought at newsagent not on order	4 ☑
Bought at specialist shop	5 ☐
Bought at supermarket	6 ☐
Passed on to me/read a friend's copy	7 ☐

Other: (please specify).........................

3. Which copy of Amiga Format did you purchase?

3.5" Disk	1 ☐
CD-ROM	2 ☐

4. Which of the items on the cover of this issue of Amiga Format made you want to read it? (Please write in your answer)

....
....
....
....
....

5. Below is a list of all the regular sections contained in Amiga Format. In general, what do you think of them? (Please use the key and write in your answer)

1=Enjoyed a lot
2=Enjoyed
3=Did not enjoy
4=Did not read

News	......	Previews	......
Game reviews	......	Serious reviews	......
Reader Games	......	GameBusters	......
PD Select	......	Workbench	......
Amiga.net	......	Creative	......
Mailbag	......	Gallery	......

6. In terms of editorial content, would you like to see more, less or about the same of the following in future issues of Amiga Format? (Please use the key and write in your answer)

1=More
2=The same
3=Less

News	......	Previews	......
Game reviews	......	Serious reviews	......
Reader Games	......	GameBusters	......
PD Select	......	Workbench	......
Amiga.net	......	Creative	......
Mailbag	......	Gallery	......
Reader offers	......	Competitions	......
Commercial coverdisks	......		

7. Following is a list of all the tutorials contained in this issue of Amiga Format's 'creative section'. For each one please indicate whether you liked or disliked the subject covered AND whether you will or won't try out the tutorial?

	Liked	Disliked	Have done / Intend to do	Won't do
DrawStudio	1 ☐	4 ☐	7 ☐	10 ☐
C++	2 ☐	5 ☐	8 ☐	11 ☐
Under the Bonnet	3 ☐	6 ☐	9 ☐	12 ☐

8. In total, how long have you spent/do you intend to spend reading this issue of Amiga Format?

Under 30 minutes	1 ☐	3-5 hours	4 ☐
30-60 minutes	2 ☐	Over 5 hours	5 ☐
1-2 hours	3 ☐		

9. Roughly how many people, including yourself, are likely to read this issue of Amiga Format?

Just me	1 ☐	6-9	4 ☐
2-3	2 ☐	10 or more	5 ☐
4-5	3 ☐		

10. What will you do with this copy of Amiga Format after you have finished reading it?

Keep it for reference	1 ☑
Pass it on to someone else	2 ☐
Throw it away	3 ☐

11. Do you find advertisements contained in Amiga Format to be a useful source of information?

Yes	1 ☑
Sometimes	2 ☐
No	3 ☐

12. Do you read the classified section?

Yes	1 ☑
No	2 ☐

13. Have you ever bought anything after seeing it advertised within Amiga Format?

Yes	1 ☑
No	2 ☐
Don't know	3 ☐

14. If you bought something, what was it? (Please tick all that apply)

CD-ROM drive	1 ☑	Modem	7 ☐
Extra memory	2 ☐	Monitor	8 ☑
Games software	3 ☐	Printer	9 ☐
Other software	4 ☐	Speakers	10 ☐
Graphics card	5 ☑	Zip drive	11 ☐
Hard disk	6 ☐	Other magazine	12 ☐

Other (please specify):.........................

15. Please rate both Amiga Format and CU Amiga on the following attributes? (Use the key and write in your answer)

1=Very good
2=Good
3=Neutral
4=Poor
5=Very poor

	Amiga Format	CU Amiga
Design	......	......
Honest reviews	......	......
News	......	......
Tutorials	......	......
Features	......	......
Writing style	......	......
Helpful advice	5	3
Coverdisk content	......	......
Coverdisk interface	......	......

16. How often do you read the following magazines? (Please use the key and write in your answer)

1 = I subscribe (receive by post)
2 = Every issue (non-subscriber)
3 = Most issues (4-5 out of 6)
4 = Occasionally (2-3 out of 6)
5 = Rarely (1 issue out of 6)
6 =Never

Amiga Format	......
CU Amiga	1
PC Format	......
Mac Format	......
Official PlayStation Magazine	......
GamesMaster	......
C&VG	......
N64	......

YOU AND YOUR AMIGA

17. Which version of Workbench do you currently use, and which do you intend to upgrade to during the next 12 months?

	Own	upgrade
Lower than 3.0	1 ☐	4 ☐
3.0	2 ☑	5 ☐
3.1	3 ☐	6 ☑
3.5		7 ☑

18. Which processor does your Amiga current have?

68000	1 ☐	68060	5 ☑
68020	2 ☐	PPC	6 ☐
68030	3 ☐	Don't know	7 ☐
68040	4 ☐		

19. How much fast RAM does your Amiga currently have?

None	1 ☐	9-16Mb	4 ☐
Less than 4Mb	2 ☐	More than 16Mb	5 ☑
4-8Mb	3 ☐		

20. Do you have a hard drive?

Yes	1 ☑
No	2 ☐

21. What speed CD-ROM drive do you own?

None	1 ☐	8x	4 ☐
2x	2 ☐	More than 8x	5 ☐
4x	3 ☑		

Continued overleaf ➡

22. Which graphics chipset do you use most? (Please tick one only)

ECS	1 ☐	Graphics card	3 ☐
AGA	2 ☐	Don't know	4 ☐

23. Does your Amiga have Zorro slots?

Yes	1 ☐
No	2 ☐
Don't know	3 ☐

24. Which of the following peripherals do you currently own and which do you intend to buy during the next 12 months?

	Own	Intend to buy
2nd floppy drive	1 ☐	21 ☐
Dot matrix printer	2 ☐	22 ☐
Inkjet printer – black & white	3 ☐	23 ☐
Inkjet printer – colour	4 ☐	24 ☐
Laser printer	5 ☐	25 ☐
Modem – 9,600 BPS or under	6 ☐	26 ☐
Modem – 14,400 BPS	7 ☐	27 ☐
Modem – 33,600 BPS	8 ☐	28 ☐
Modem – 56,000 BPS	9 ☐	29 ☐
CD-ROM drive	10 ☐	30 ☐
Separate speakers	11 ☐	31 ☐
Sound sampler	12 ☐	32 ☐
Zip drive	13 ☐	33 ☐
Extra RAM	14 ☐	34 ☐
Hand scanner	15 ☐	35 ☐
Flatbed scanner	16 ☐	36 ☐
Genlock	17 ☐	37 ☐
Digitiser	18 ☐	38 ☐
Monitor	19 ☐	39 ☐
Hard disk	20 ☐	40 ☐

25. Approximately how many items of software do you currently own and how many do you intend to buy during the next 12 months? (Please write a number in the spaces provided)

	Own	Intend to buy
Serious software	....	....
Full price games	....	....
Budget games	....	....
Public Domain	....	....

26. Which activities do you use your Amiga for? (Please tick all that apply)

Educating children	1 ☐	Accounting	8 ☐
Educating yourself	2 ☐	Making music	9 ☐
Games	3 ☐	Programming	10 ☐
Internet access	4 ☐	Video titling/editing	11 ☐
Reference/multimedia	5 ☐	Word processing	12 ☐
Art/design	6 ☐	Spreadsheets	13 ☐
DTP	7 ☐	Databases	14 ☐

Other (please specify):..........................

27. Roughly how many hours a week do you spend using your Amiga?

1 hour or less	1 ☐	15-20 hours	5 ☐
1-4 hours	2 ☐	21-30 hours	6 ☐
5-7 hours	3 ☐	More than 30 hours	7 ☐
8-14 hours	4 ☐		

28. If you play games on your Amiga, which of the following genres do you enjoy playing? (Please tick all that apply)

Arcade/adventure	1 ☐	Simulations	7 ☐
Beat-em-up	2 ☐	Football games	8 ☐
Shoot-em-up	3 ☐	Other sports games	9 ☐
Compilations	4 ☐	RPG	10 ☐
Driving/racing	5 ☐	Strategy/wargames	11 ☐
3D *Doom*-style games	6 ☐	Platform games	12 ☐

29. Roughly how much have you spent on Amiga software/hardware over the last/ next 12 months?

	Have spent	Intend to spend
Software		
£49 or less	1 ☐	16 ☐
£50-£99	2 ☐	17 ☐
£100-£299	3 ☐	18 ☐
£300-£499	4 ☐	19 ☐
£500-£999	5 ☐	20 ☐
£1,000-£1,999	6 ☐	21 ☐
£2,000 or more	7 ☐	22 ☐
Hardware		
£49 or less	8 ☐	23 ☐
£50-£99	9 ☐	24 ☐
£100-£299	10 ☐	25 ☐
£300-£499	11 ☐	26 ☐
£500-£999	12 ☐	27 ☐
£1,000-£1,999	13 ☐	28 ☐
£2,000-£4,999	14 ☐	29 ☐
£5,000 or more	15 ☐	30 ☐

30. Where do you normally buy your Amiga software/hardware from?

	Software	Hardware
Specialist store	1 ☐	7 ☐
High street store	2 ☐	8 ☐
Mail order	3 ☐	9 ☐
Exhibitions	4 ☐	10 ☐
Via Internet	5 ☐	11 ☐
Second hand	6 ☐	12 ☐

Other: (please specify)..........................

....

31. How influential do you find the following when deciding which Amiga products to buy? (Please rate the following from 1-10 where 1 is not at all influential and 10 is very influential)

Word of mouth	.....
Magazine reviews	.....
Magazine advertisements	.....
Advice from sales assistants	.....
Demo of product	.....
Promotions/discounts	.....
Internet advice	.....

32. Which of the following computers or consoles do you own/ still use? (Please tick all that apply)

	Own	Use
Atari ST	1 ☐	8 ☐
PC	2 ☐	9 ☐
Apple Macintosh	3 ☐	10 ☐
Sony PlayStation	4 ☐	11 ☐
Sega Saturn	5 ☐	12 ☐
Nintendo 64	6 ☐	13 ☐
Nintendo Gameboy	7 ☐	14 ☐

33. Do you intend to buy any of the following computers or consoles during the next 12 months?

New Amiga	1 ☐	Sega Saturn	5 ☐
PC	2 ☐	Nintendo 64	6 ☐
Apple Macintosh	3 ☐	Nintendo Gameboy	7 ☐
Sony PlayStation	4 ☐		

34. How long have you owned an Amiga for?

1 year	1 ☐	4 years	4 ☐
2 years	2 ☐	5 years or more	5 ☐
3 years	3 ☐		

35. Do you use an Amiga for work?

Yes, at my office	1 ☐
Yes, I work from home	2 ☐
No	3 ☐

YOU AND THE INTERNET

36. Have you ever accessed the Internet?

Yes, from my Amiga	1 ☐
Yes, from another computer	2 ☐
No	3 ☐

37. Do you intend to get access to the Internet in the next 12 months?

Yes, from my Amiga	1 ☐
Yes, from another computer	2 ☐
No	3 ☐

38. If you currently access the Internet from your Amiga or other computer, how many hours do you spend on it each week?

	From Amiga	From other computer
Less than 1 hour	1 ☐	8 ☐
1-3 hours	2 ☐	9 ☐
4-5 hours	3 ☐	10 ☐
6-8 hours	4 ☐	11 ☐
9-10 hours	5 ☐	12 ☐
11-15 hours	6 ☐	13 ☐
Over 15 hours	7 ☐	14 ☐

ABOUT YOU

39. Are you?

Male	1 ☐
Female	2 ☐

40. What age are you? (Please write in your answer)

....25..

41. What do you do?

Full-time work	1 ☐	Unemployed	5 ☐
Part-time work	2 ☐	Retired	6 ☐
Student	3 ☐	Other	7 ☐
At school	4 ☐		

42. If you are currently in work, what is your job? (If you are retired or unemployed, please give details of your most recent job)

Director	1 ☐	Manual worker	5 ☐
Manager	2 ☐	Office worker	6 ☐
Self-employed	3 ☐	Shop worker	7 ☐
Skilled worker	4 ☐	Armed forces	8 ☐

Other (please specify):..........................

....

....

43. What is your annual household income before tax?

Under £5,000	1 ☐	£20,000-£24,999	5 ☐
£5,000-£9,999	2 ☐	£25,000-£29,999	6 ☐
£10,000-£14,999	3 ☐	£30,000-£34,999	7 ☐
£15,000-£19,999	4 ☐	£35,000 or over	8 ☐

Please use this box for any additional comments you have about Amiga Format.

....

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....

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....

Thank you for your help. If you'd like to enter the prize draw, fill in your name, address and telephone number, cut the survey out or photocopy it and post it to the address at the bottom of this page. The survey must be returned by Friday 24th April 1998 when the draw will take place.

Name:..

Address:..

....

....

County:..

Post Code:..

Tel (including STD):..

Please tick this box if you do not wish to receive mail from other carefully screened companies. ☐

Now please return your questionnaire to:

JAMES PENWELL (AF)
MARKET RESEARCH MANAGER
FUTURE PUBLISHING LTD
30 MONMOUTH STREET
BATH
BA1 2BW

Competition Winners!



Paul England and grandson celebrate finally receiving their A1200 from our issue 100 competition, all the way down under in Australia!

Those of you who entered any of our amazing Christmas competitions will be wondering by now whether you've won anything in one of our many draws.

You'll find just some of the results here on this page, but some of you'll have to wait until next month to see if you've won some of the competitions because we just don't have the space here!

Hackers Winners

These ten successfully divined that it was the Designers Republic and Psygnosis that designed the graphics for this film:

Andrew Jackson, East Huntspill.
S. Costa, Southport.
Dave Jackson, Barnsley.
Anthony page, Yate.
Wendy Augustine, Harrow.
E. A. Dornan, Dunoon.
P. J. Moon, Portland.
Michael Maybury, Bromborough.
Pauline Corns, St. Helens.
F. T. Brumby, Doncaster.
David Bateman, York.

DevKart Winners

Three people who worked out that Thomas was disqualified for dangerous driving:

Dave Heddley, Manchester.
Alex Cowley, Stalybridge.
Alex Vakkas, Athens, Greece.

Final Odyssey Winners

T Burns, Northallerton.
Gregor King, Blackford.
J Gilbert, Stoke On Trent.
G Mann, Bolton.
D Coe, Hadleigh.
Jim Finlayson, Stirling.
Mr Sean Harkin, Limavady, N. Ireland.
Paul D Harding, Southsea.
Jeremy Spring, Huntsbury, New Zealand.
M Orwin, Shaftesbury.

Uropa2 Winners

Alan Johnson, Mansfield.
B K Hanson, Derby.
Rumeu Justo Reyes, Tenerife.
Mark Phillips, Melton Mowbray.
Andy Penny, Southampton.
Andrew Hunte, Chorley.
A Rayner, Corfe Mullen.
Wendy Augustine, Harrow.
D Whitehead, Gt Shelford.
S Watson, Co Durham.

Weird Science Light Rom 5 Winners

R. Penel, Bournemouth.
S. Harknett, Hoddesdon.
P. Dalgleish, Edinburgh.
S. Brookes, Bromsgrove.
J. Sorrell, Ashingdon.
A. Wilson, Glasgow.
M. Wightman, Stoke on Trent.
G. Sweeney, Lanarkshire.
T. Green, Rotherham.
P. Armstrong, Manchester.

Fontamania Winners

C. Morris, Cheltenham.
R. Stobbart, Co. Durham.
John Rorland, Sweden.
L. Richards, Isle of Wight.
D. Walshaw, Wakefield.
C. Parkes, Basingstoke.
Rasmus Knudsen, Denmark.
J. Goscomb, Somerset.
M. Steven, Stafford.
N. Currie, Clydebank.
D. Hemmings, Northants.
O. Roberts, Norfolk.
G. Palfrey, Haydock.
T. Davies, Lancs.
R. Jeynes, Birmingham.
G. King, Perthshire.
J. Gillies, Glasgow.
A. Kitching, Scunthorpe.
G. Mann, Bolton.
T. Burns, North Yorks.
J. Gilbert, Stoke on Trent.
K. Taylor, Dorset.
D. Hodgson, Isle of Harris.
D. McGregor, Fife.
V. Faramus, Surrey.


Now we have drawn the winners, Mark will be deprived of the makeshift nest he constructed from the many entires we received...

Aminet Subscription Winners

P. Mallard, Northants.
D. Summers, Peterborough.

Epic Competition Winners

A. Smythe, Huddersfield.
L. Maiden, London.
R. Brown, Guildford.

RUNNERS UP

T. Bartlett, Glasgow.
P. Chester, Bristol.
T. King, Lincoln.
S. Baron, Sunderland.
L. Halifax, Surrey.

Coldcut Winners

Hassni Malik, Epsom Downs.
Alan Johnson, Mansfield.
D. J. Mahalovich, Kaitaia, New Zealand.
J Goscomb, Chard.
Warren Prince, Midwest City.

SFX Winner

P. K. Mounsey, Essex.

T3 Winners

Mark Sudlow, Winsford.
Ash Thomas, Middlesex.
Ben Wyatt, Norwich.

MUI and MWB Winners

Dennis Edwards, Kirkstall.
Franck Cassedanne, Peckham.
T. Sipps, Basildon.
Sean Sherry, Lusk, Ireland.
Leonidas Mastellos, Athens, Greece.

Golden Image Winners

Nick Karadimas, Athens, Greece.
Gustavo Henrique dos Santos Vierie, Portugal.
Andres P. Christensen, Denmark.
John Bilton, Doncaster.
Gabrial Lopez, Malaga, Spain.
Peter Robinson, Lowestoft.
WO1 (RSM), Signal Squadron.
Likoussis Sakis, Greece.
G. J. Bayliss, Douglas, Isle of Man.

Aladdin 4D Winners

S. Richmond, Dorset.
V. Yates, Fife.

DOpus Magellan Winners

P. Mills, Cornwall.
D. Evans, Bristol.
E. Driver, Surrey.

Graphics & Video



The Eyetech 1-slot Zorro adapter, CV64/3D graphics card and the AUTO-MON CV64 3D & Amiga RGB video switch.

Eyetech 1-slot Zorro adapter	£99.95
Eyetech 7-slot Zorro adapter	£149.95
1-slot to 7-slot Zorro upgrade	£79.95
CV 64/3D 4MB graphics card	£159.95
1-slot Zorro + CV64/3D bundle	£99.95
AUTO-MON video switch	£39.95

The MK2 EZ-VGA Auto scan doubler adapter is now available with optional flicker-fixer for rock-steady 'interlaced' PAL/NTSC display modes

EZ-VGA Mk2 upgradeable scandoubler	£79.95
EZ-VGAPlus scandoubler/flickerfixer	£119.95
Upgrade EZ-VGA Mk2 to EZ-VGAPlus	£50.00
Engineering-workstation quality 17" monitor, 0.26 dot pitch, 1600 x 1280 @75Hz non-interlaced, 1yr on-site + 2yrs RTB warranty	£399.95

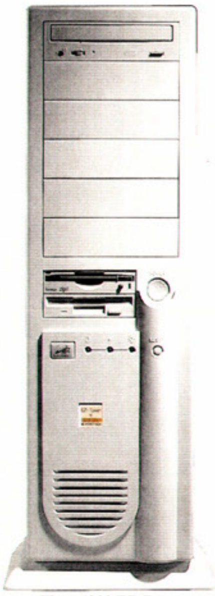
Eyetech EZ-TOWER Options

	Backplate Kit	DIY EZ-Tower	Full EZ-Tower	EZ-Tower Plus	Infinitiv tower	Power tower
DF0: face plate, cable	Yes	Yes	Yes	Yes	Yes	Yes
Custom backpanel with SCSI/audio KO's	Yes	Yes	Yes	Yes	Yes	Yes
A1200 power and LED adapters	Yes	Yes	Yes	Yes	Yes	Yes
CE-approved metal PC case	n/a	Yes	Yes	Yes	Plastic	Metal, not CE
No of bays/PSU capacity	n/a	10/250W	10/250W	10/250W	5*/200W	7/200W
Accessible PCMCIA slot	Yes	Yes	Yes	Yes	+£24.95	+£29.95
DIY assembly instructions	Yes	Yes	n/a	n/a	Yes	n/a
Installation instructions	Yes	Yes	Yes	Yes	Yes	Yes
PC board/Siamese compatibility	Yes	Yes	Yes	Yes	No	No
Assembled & A1200-ready	No	No	Yes	Yes	No	Yes
EZ-Key* adapter & Win95 k/b	Option	Option	Option	Yes	Yes	Yes
Eyetech installation option	No	No	Yes	Yes	n/a	n/a
Cost with options as specified	£39.95	£79.95	£99.95	£148.95	£214.85*	£179.90

Other A1200 towers (for comparison)

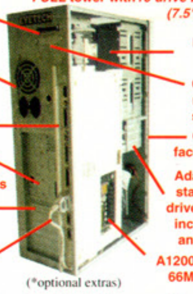
* The Eyetech *EZ-Key* adapter autodetects Amiga & PC keyboards & has two selectable PC keyboard mappings. Other keyboard adapters are single function only.

* with additional 5.25" drive bay as recommended



The A1200 EZ-Tower

"This definitely one of the easiest solutions to building your own tower." Amiga Format
"The Eyetech tower offers clever solutions with a Velcro easyfit mentality" Cu Amiga



(*optional extras)

Now You've Got Tower Power!

A fabulous, time-limited EZ-Tower System offer* from Eyetech!!!

(... but only available whilst stocks last!)



- √ ***Ready built EZ-Tower*** with 250w PSU
- √ ***EZ-Key*** keyboard adapter, ***Windows95 keyboard.***
- √ ***Full UK specification A1200***, ***Kickstart 3.1/Workbench 3.1*** disks, manuals, mouse, mousemat and TV lead.
- √ ***880KB floppy drive*** including faceplate
- √ Fantastic software bundle including ***Wordworth 4SE, Turbocalc 3.5, Datastore 1.1, Photogenics 1.2SE, Personal Paint 6.4, Organiser 1.1, Pinball Mania and Whizz***
- √ All items fully installed, tested and ready-to-go!

Complete EZ-Tower floppy system as described left for an unbelievable £349.95

Why not have these upgrades installed *at time of purchase only* at the following very special prices:

- √ ***1.2GB*** TowerDrive and cable for **Just £89.95**
- √ ***Apollo '030/33MHz accelerator with MMU, FPU*** and ***8MB*** memory for **Just £89.95**

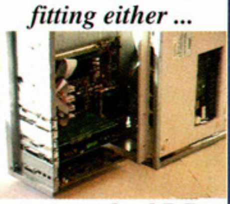
* Prices in this box are not valid in conjunction with any other offer from Eyetech

What about PowerPC upgrades? The Blizzard PowerPC boards from phase5 will fit in the trapdoor space of an EZ-Tower'd A1200, with or without a Zorro expansion board. However you should bear in mind that the PPC boards will be limited to providing 'subroutine' support to specially written 680x0 programs (just like an expensive FPU) for the forseeable future. If and when a proper native PPC Amiga operating system is available Eyetech will start stocking and supporting these boards directly.

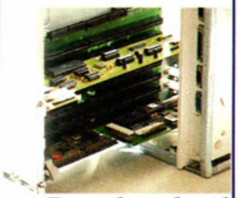
All EZ-Towers ...



...feature a slide-out mounting frame for fitting either ...



...a standard PC motherboard and cards, or...



...a Zorro board and cards (as well as your A1200).

Looking for an all-in-one package? Why not treat yourself to the Eyetech EZ-Tower Professional Pack 2?



The Eyetech Professional pack comes with a full EZ-Tower, new WB3.1 A1200 and ...

Just look what you get for an unbelievable £799.95!

- √ ***EZ-Tower*** with full UK specification A1200, ***Kickstart 3.1/Workbench 3.1*** disks and manuals, mouse, mousemat, TV lead and 250watt psu.
- √ ***EZ-Key*** keyboard adapter, ***Windows95 keyboard.***
- √ ***33MHz '040*** processor (approx 25 Mips) with MMU & FPU and ***16MB*** of program memory.
- √ ***2.1GB TowerDrive*** with Workbench 3.1 and shareware utilities preinstalled
- √ ***16-speed CDROM*** including the ***Eyetech 4-device buffered interface*** with ***fully registered EZ-IDE*** CDROM/hard drive/IDE Zip drive/LS120 driver software (see main ad for EZ-IDE details)
- √ ***880KB floppy drive*** including faceplate
- √ Fantastic software bundle including ***Wordworth 4SE, Turbocalc 3.5, Datastore 1.1, Photogenics 1.2SE, Personal Paint 6.4, Organiser 1.1, Pinball Mania and Whizz***
- √ All items fully installed, tested and ready-to-go!



EZ-KEY & Win95 k/b,



33MHz '040 & 16MB fast RAM,



16x CDROM, 2.1GB HD, EZ-IDE s/w & 4-way EIDE i/f .

AND the option to have:

- √ An ***LS120*** 720KB/1.44MB/120MB super floppy drive/cable installed in your machine for ***just £84.95 extra*** (at time of purchase only)



The optional LS120 120MB Superfloppy

The fantastic Siamese RTG2.5 ethernet graphics system for your Amiga ...



... Just add a PC mother-board and it becomes the perfect partner for your EZ-Tower'd A1200!

Then use PC-side hard & floppy drives, CDROMS, printers and graphics cards as native Amiga peripherals!

The Eyetech Ethernet Siamese pack contains:

- √ A1200 PCMCIA ethernet card and driver software
- √ PC ethernet card and driver s/w
- √ Ethernet cable, 'T' pieces and terminators
- √ Full Siamese RTG2.5 software

All this for just £199.95!!!

(Amiga TCP/IP stack & Win95 O/S required)

Love your A1200 but need PC compatibility for work or study purposes? Then you need Eyetechs EZPC-Tower system!



Just £999.95 gets you a fully loaded Siamese ethernet system with:

- √ A full Amiga ***EZ-Tower*** system ***ready to take your A1200.***
- √ Jumperless 266MHz-capable PC Pentium board with ***200Mhz cpu, 32MB*** of memory, ***Win95 keyboard & mouse*** & second fan.
- √ ***Full-screen full colour video capture*** card with ***TV tuner and frame grabber*** (with video camera input).
- √ High performance, ***high res graphics card*** with full screen/full frame rate ***MPEG playback.***
- √ ***32-voice*** high performance ***sound card*** with direct-to-disk, ***CD-quality recording software.***
- √ ***2.1GB*** hard drive, ***16-speed*** CDROM, ***2x S,1xP & USB ports*** and 1.44MB FDD
- √ Full ***ethernet Siamese 2.5RTG*** system with ***Amiga and PC ethernet cards***, driver software, cables & terminators and ***scandoubling system for non-retargetable Amiga screens*** such as games. (The ethernet Siamese system requires an Amiga TCP/IP stack - as used by Internet software - and Windows95 operating system - see below).



EZPC & Amiga ethernet adapter



HD,CDROM,FDD & optional CDROM Writer upgrade

EZPC options (at time of ordering only) :

- √ CDROM upgrade to CDROM 2xwriter, 6x reader ***+£249.95***
- √ Windows 95R2 OS & Lotus Smartsuite bundle (WordPro, Lotus 123, Approach database, Organiser, Freelance Graphics etc) ***+£99.95***
- √ Miami Amiga TCP/IP stack (fully registered) ***+£29.95***

Ring for hard drive, CDROM, memory & processor upgrade options

ADPT-AUD-EZTW	EZ-Tower audio mixr/adapter for A1200/CDROM	19.95
ADPT-AUD-RCA	RCA(phono)-M -> 2xRCA-F adapter	2.50
ADPT-AUD-RCA-G	RCA(phono)-M -> 2xRCA-F gold plated adapt	3.50
ADPT-CDPL-PWR	CDPlus external power socket + HD pwrcab	9.95
ADPT-DF0-FP	Tower faceplate adapter for A1200 int FD	6.95
ADPT-DF0-TWR	34-34 way cable and faceplate for DF0	12.95
ADPT-ETH-BNCT	BNC T-piece 2xM + 1xF	4.95
ADPT-ETH-TERM	Ethernet BNC coax terminator 50R	4.95
ADPT-HD-2/3	2.5"/44way -> 3.5"/40w+4w & mtg bracket	11.95
ADPT-HD-3/5	3.5" Zip/SyQuest/FDD/HD brkt/pl ->5" bay	5.95
ADPT-KBD-5P6P	Amiga/PC k/b adapter 5p din-F ->6p m/d-M	5.95
ADPT-KBD-6P5P	Amiga/PC kbd adapter 6p mindin-F ->5pd-M	5.95
ADPT-EZKEY	Amiga/PC k/b -> A1200 kbd ribbon cable	39.95
ADPT-EZKEY-W95	Amiga/PC k/b->A1200 kbd rib cab+Win95 k/b	49.95
ADPT-PCM-ETH	PCMCIA ethernet card with Amiga/PC drvrs	89.95
ADPT-SCAR-CMP	Amiga comp video (RCA)+2xAudio to SCART	12.95
ADPT-SCAR-RGB	Amiga 23p+2xRCA to RGB TV SCART + audio	12.95
ADPT-SCSI-EZTW	EZ-Tower SCSI adpt 30cm 2xCent50F+1xIDC50F	19.95
ADPT-SQ3-PAR	SQ3 adapter Epson scanner -> par printer cable	9.95
ADPT-SW-S/K	Dual monitor & k/b switchbox	19.95
ADPT-VGA-9M15F	Adapter from 9p D-F to 15p HD-M VGA	9.95
ADPT-VGA-15M9F	Adapter from 15p HD-M VGA to 9pD-F	9.95
ADPT-VGA-BUF	Amiga 23pin-F to 15pinHD-F VGA adapter	19.95
ADPT-VGA-UNBF	Amiga 23 pin(f)-15 pin HD(f) VGA adapter	12.95
ADPT-VGA-AMON	Auto Amiga/CV643D m/sync monitor switch	39.95
ADPT-VGA-SDBL2	Amiga extern scandoubler upgrad'le to FF	79.95
ADPT-VGA-SDFF	Amiga extern scandoubler/flicker fixer	119.95
ADPT-VGA-SDFF/UG	Upgrade from scandoubler to f/fixer	50.00
INT-12C-DSKPL	DiskPlus FDD D/H/S dens i/t A1200clkport	69.95
INT-12I-EZCD4	4-dev buf IDE/CD i/f w/ active IRQ A1200	39.95
INT-12I-DSKPL	DiskPlus D/H/S dens Am/PC FDD 1200 IDEpt	64.95
INT-4KI-CD4	4-device EIDE interface for A4000	19.95
INT-4KI-DSKPL	DiskPlus Fdd D/H/S dens Am/PC A4K IDE pt	69.95
INT-FDD-DF0	Interface for std Sony FDD for DF0 880KB	14.95
INT-SER-PPL	PortPlus 2x 460kb ser + hispeed par port	79.95
INT-SER-PTJR	PortJunior - 460KB serial i/f for A1200	39.95
ADPT-Z2-A12/1	A1200 ZII adapter with 1 ZII slot	99.95
ADPT-Z2-A12/7	A1200 ZII adapter w/ 7xZII + 5xISA slots	149.95
ADPT-Z2-A12/7/UG	A1200 ZII adapter 1->7 slot upgrade	79.95
ADPT-Z2-KBUG	Keyboard interface upgrade for Z2 adpter	35.00
GFX-C643D	Cybervision 64/3D Z2/3 Amiga graphix crd	159.95
GFX-Z2-CV/Z2-1	1-slot Z2 + C643D bundle without f/fixer	249.95
GG2-ISA-ETH	NE2000 ISA ethernet card BNC for GG2-BB	19.95
GG2-ISA-MIO	Multi-I/O ISA card 2xIDE,2xSER,1xP	14.95
GG2-Z2-BB	GG2 Zorro2 brigeboard for PC ISA periphs	119.95
INT-Z2-IDEPL	IDEPlus 6xIDE+2xDD/HD FD, IDEFix, Zorro2	79.95
INT-Z2-PPL3	PortPlus Zorro 2xS, 1xP, expansion bus	69.95
INT-Z2-PPL4	PortPlus4 - Zorro 4xSerial + expansion bus	89.95
INT-Z2-PPX	2xS +1xP expansion for INT-Z2-PPL3/4	59.95
CAB-AUD-3.5/RCA	3.5mm stereo jack -> 2xRCA-M plugs 1.2m	5.95
CAB-AUD-CD	CDROM invt'd T audio cab .6m + 2xRCA plg	9.95
CAB-AUD-MIX	RCA(phono)-M -> RCA-M+RCA-F mix ld 1.8m	6.95
CAB-ETH-60C	Ethernet coax/BNC-F 60cm for Siamese	9.95
CAB-FDD-EX.5M	External FDD extn cab 23-M -> 23-F 0.5m	12.95
CAB-FDD-EX2M	External FDD extn cab 23-M -> 23-F 2m	14.95
CAB-HD-FD/4	23p-M-floppy -> 4p-F HD/CD pwr 0.9m	9.95
CAB-HD-KIT	A1200 full 3.5" hard drive fitting kit	24.95
CAB-HD-PWEXP	Tower power expdr 4pM->3x4pM+FDDpwr	11.95
CAB-HD-PWRXT	4p-M -> 4p-F HD/CD power cab ext 0.9m	9.95
CAB-HD-PWSP	HD/CD pwr splitter 4p-M ->2x 4p-F 15cm	6.95
CAB-IEC-1.5M	AC power cable 13A-M -> IEC-F 1.5m	2.95
CAB-IEC-4X13	AC powerstrip exp'der 1xIEC-M ->4x13A-F	19.95
CAB-KBD-MF	5p DIN-M - 5p DIN-F k/b ex cable 1.2m	7.95
CAB-KBD-MM	5p DIN-M - 5p DIN-M k/b cable 1.2m	7.95
CAB-PD-.3M	44->40way 3.5" HD data & pwr cabs A1200	14.95
CAB-SCS-25/50	SCSI cable DB25-M -> Cent50-M 1m	9.95
CAB-SCS-25M/25M	SCSI cable DB25M-DB25M mac type	9.95
CAB-SCS-50M/50M	SCSI cable Centr50M->Centr50M 1m	9.95
CAB-SER-EX.5M	DB25-M -> DB25-F RS232 extn cab 0.5m	6.95
CAB-SER-EX2M	DB25-M -> DB25-F RS232 extn cab 2m	7.95
CAB-SER-SSQ	9pDM->9pDF SurfSq EZ-Tower ser extn cab .5m	9.95
CAB-VGA-MF	15p DM-HD -> 15p DF-HD VGA ext cable 2m	9.95
CAB-VGA-MM	15p DM-HD -> 15p DM-HD VGA cable 2m	9.95
CAB22-2W-9C	22way-Fx2 A1200 clock port cable 9cm o/a	6.95
CAB34-2W-50C	34way-F x 2 FDD ribbon cable for tower 50cm	9.95
CAB40-2W-20C	40w-F x2 IDE/HD/CD cable 20cm o/a len	5.95
CAB40-3W-1M	40w-F x3 IDE/HD/CD cable 1m o/a len	9.95
CAB40-3W-60C	40w-F x3 HD/CD/IDE cable 20+40cm=60cm o/a	9.95
CAB40-3W-85C	40w-F x3 IDE/HD/CD cable 85cm o/a len	9.95
CAB40-CUST	Custom cable 3x40way IDE up to 1.5m	19.95
CAB40-DDC	IDE IDC40-F -> IDC40-M skt with mtgs 0.15m	9.95
CAB44-2W-13C	44way (2.5" HD) cable 2 cntr, 13cm o/a	9.95
CAB44-2W-60C	44way (2.5" HD) cable 2 cntr, 60cm o/a	19.95
CAB44-2W-9C	44way (2.5" HD) cable 2 cntr, 9cm o/a	8.95
CAB44-3W-24C	44way (2.5" HD) 3 cntr,7+17cm=24cm o/a	14.95
CAB44-3W-12C	44way (2.5" HD) cable 3 cntr, 12cm o/a	12.95
CD-CP-4X-SP	4-speed component CD sys w/ PSU,EZCD i/f	89.95
CD-CP-8X-SP	8-speed component CD sys w/ PSU,EZCD i/f	99.95
CD-CP-16X-SP	16-speed component CD sys w/PSU,EZCD i/f	109.95
CD-CP-24X-SP	24-speed component CD sys w/PSU,EZCD i/f	119.95
CD-FT-4X	CDPlus Fulltwr 4x special w/PSU,EZCD i/f	79.90
CD-FT-8X	CDPlus Fulltwr 8x special w/PSU,EZCD i/f	189.90
CD-FT-16X	CDPlus Fulltwr 16x spec'l w/PSU,EZCD i/f	199.95
CD-FT-24X	CDPlus Fulltwr 24x spec'l w/PSU,EZCD i/f	209.95
CD-MT-4X,(CD-DT-4X)	CDPlus Minitwr (DT) 4x special w/PSU,EZCD i/f	109.95
CD-MT-8X,(CD-DT-8X)	CDPlus Minitwr (DT) 8x special w/PSU,EZCD i/f	119.95
CD-MT-16X, (-DT-)	CDPlus Minitwr (DT) 16x spec'l w/PSU,EZCD i/f	129.95
CD-MT-24X, (-DT-)	CDPlus Minitwr (DT) 24x spec'l w/PSU,EZCD i/f	139.95
CASE-CD40W	CDROM case (IDE, audio cntr, 40Wpsu, CE)	59.95
CASE-MT, (CASE-DT)	MiniTower (DT) case 200W+psu w/ contrs & instr	39.95
CASE-FT	Full PC tower, 250W PSU, modable for A12	59.95
CASE-FT-1200	Full A1200 Tower 250WPSU,LED adpt,FD cab	99.95
CASE-FT-BPKT	EZ-Tower backpanel conversion kit - No PC twr	39.95
CASE-FT-KIT	EZTower kit w/ backpanel etc for self conversion	9.95

Eyetech's Spring Sale: *Siamese RTG2.5 ethernet packs £199.95; EZ-Towers from £79.95!!!; 4-speed CDROM system - £89.95!!!; A1200 Magic Packs from £189.95; EZ-Tower Systems inc A1200 from £349.95; 030 accel's w/4MB from £79.95, w/8MB from £89.95; 19 Mips '040/25 £128.95; 39 Mips '060/50MHz £268.95; 20% off mem prices bought with accel.; LS120 /Zip £89.95; (Price down, New Product)*

Q. What fits in a floppy bay and reads & writes 120 MB PC & Amiga cartridges AND 720KB & 1.44 MB PC diskettes?

A.The All-New LS120 ATAPI drive from Eyetech



- √ 120MB backup and PC 1.44MB diskette compatibility in one unit
- √ Bare Drive just £89.95 .120MB cartridges just £14.95/1 or £34.95/3
- √ EZ-IDE universal EIDE driver software is required - 50% discount when ordered with the LS120 or 4-device buffered interface . Upgrades available from Eyetech-supplied IDE-fix available - see below right.



Amiga 1200 Magic Packs

- Direct to Eyetech from Amiga International Inc.

- √ Full UK specification with Kickstart 3.1/Workbench 3.1 disks and manuals, UK psu, mouse, mousemat and TV lead and 2MB graphics memory (in addition to any memory expansion included in the packs below).
- √ Fantastic software bundle including Wordworth 4SE,Turbocalc 3.5, Datastore 1.1, Photogenics 1.2SE, Personal Paint 6.4, Organiser 1.1, Pinball Mania and Whizz
- √ Hard drive versions come with Scala MM300 preinstalled
- √ Other options available - please ring. EZ-Tower options also available from £349.95

Eyetech Starter Pack

Diskette based system as above Add an '030/25/MMU/FPU with 8MB for just £79.95 (at time of purchase only)

Sale price - £189.95

Productivity Pack 2

170 MB hard drive system with software preinstalled 030/33/MMU/FPU with 8MB

Sale price - £329.95

MiniTower CD Pack

1.2GB hard drive - 16-speed CDROM - '040/25 accelerator & 16MB - 4-device buffered i/f - EZ-IDE s/w - MiniTower with 230W psu - cables

Sale price - £599.95

Professional Pack 2

Full Eyetech EZ-Tower - EZ-Key i/f - Win95 k/b - 2.1GB HD - 16x CDROM - '040/33 accel & 16MB - 4-device buffered i/f - EZ-IDE s/w - cables

Sale price - £799.95

(New) HEALTH WARNING

"A buffered IDE interface is essential to avoid overloading of the A1200's IDE port when adding extra devices"- John Kennedy - AF - 7/97

Don't be tempted to skimp. Beware hastily designed interfaces from companies who said buffered interfaces were unneccessary less than 12 months ago! The Eyetech MK 4 EZ-CD fully buffered 4-device interface *with active IRQ pull-down* is now shipping. Preserve your Amigas health with IDE technology from Eyetech - *THE* IDE sprcialists - for just *£39.95.*

Now with 50% discount off EZ-IDE software

Do you belong to an computer club which is self-sufficient in technical help?

Then why not apply for an Eyetech Amiga Club Trade account which entitles you and your club members to the very best levels of discount and exclusive club offers on Eyetech's Amiga products.

PortPlus - 2x serial & 1 x parallel - *£79.95!*

PortJnr - 1 x 460Kbaud ser *£39.95*

PortPlus Zorro - See price list



EZ-IDE

New! Only available from Eyetech - *the* Amiga IDE/ ATAPI peripheral specialists. Probably the only hard drive/CDROM/LS120/ZIP/SyQuest s/w you'll ever need.

- √ Supports LS120, Zip, Jaz, SyQuest and other IDE/ATAPI removable cartridge drives AUTOMATICALLY. Cartridges just appear on the Workbench when inserted and disappear when ejected! Eyetech's IDE ZipPrep Tools are also included.
- √ Optimises IDE hard drive performance automatically. Eliminates 'MaxTransfer' nightmares.
- √ Extensive CDROM support including multidisk changers, direct digital audio transfer, CD32 emulation, high performance filesystem support for Amiga, Mac and PC CDs.
- √ Ready-to-use as shipped. No sending away to foriegn parts for registration codes as with the 'commercial' versions of IDE-*fix*97 and Atapi Pn'P.

EZ-IDE s/w	£34.95
Upgrade from Eyetech-supplied* IDE-*fix*	£12.50
With 4-dev i/f, CDPlus, IDE Zip or LS120	£17.50
Competitive u/grade*	£19.95

**Trade-in & proof of purchase required*

The *Top-Rated* Eyetech *CDPlus* for the A1200

AUI - 97% *"... It all worked faultlessly..."*

AF - 96% *"... An absolutely superb bit of kit.."*

AS - 90% *"... This is a quality product..."*

"... What will persuade the hold-outs to get a CDROM are .. lower prices."

- Andrew Korn, Cu Amiga , March 1998.

"... Good point Andrew. Here they are! Now there's no excuse not to have a CDROM!"

- Alan Redhouse, Eyetech, March 1998

Eyetech CDPlus Specials! - Available only whilst stocks last!



Includes:

- √ CDROM mechanism
- √ Metal CDROM case
- √ 4-device buffered interface
- √ Power supply
- √ 40- & 44-way IDE cables
- √ Free Amiga CD
- √ Full instructions

4-Speed - £89.95

8-Speed - £99.95

16-Speed - £109.95

24-Speed - £119.95

Considering a PowerStation?

The CDPlus is now available with a, 230W, CE-approved, PC MiniTower* or Desktop* case (which can also power your A1200) - *for only £20 extra*

... Or buy a ready-built EZ-Tower* for just £89.95 when you buy a CDPlus drive (*as an alternative to the regular CDPlus case)



(*as an alternative to the regular CDPlus case)



IrseeSoft V6.01 AMIGA Computer

- √ The most comprehensive, fastest printing system for all WB2.x+ Amigas
- √ Supports the latest printers from Epson, Canon, HP

TurboPrint 5 £36.95

TurboPrint 6 £38.95

The Amazing Iomega *IDE* Zip Drive

Another first from Eyetech

- √ *Use a different cartridge for each application or family member*
- √ *Ideal for transferring multimedia data between Amigas and/or other platforms*
- √ ***Fits in any Amiga/desktop/minitower floppy drive bay or in external case***

CARTRIDGE CHANGES AUTOMATICALLY RECOGNISED!



The IDE Zip drive fitted in an A1200

Bare IDE Zip drive *(inc Eyetech V2.0 Ziptools)* **- Just £89.95**

***EZ-IDE* (or equiv) software required - Just £17.50 with drive**

100MB Zip cartridges just £14.95/1 or £34.95/3 (*A600/1200 buffered interface needed)

"...The best keyboard adapter for the A1200 by far..."

EZ-Key

- √ Autodetects and remaps Amiga and PC keyboards
- √ Choice of two keyboard-selectable PC key mappings
- √ 30cm long ribbon cable for positioning flexibility

Just £39.95 ... Or just £49.95 with a Win95 keyboard

CASE-HD-ECON	External 3.5" HD case no psu	19.95	PSU-CD32	CD32 18W PSU (new & orig) - 90 days warranty	14.95
CASE-HD-REM	Removeable drive case for 3.5" HD (metal	24.95	SCN-FBA4-BDL1	Mustek SCSI A4 Flbed scnr & SQ3 Mustek s/w	199.95
CASE-ZIP	Metal slim case-FDD/IDEZip/SyQuest/LS120	9.95	SPK-2W	2xamp/spkrs 16W PMPO no psu 3.5mm jack	8.95
DVR-EZIDE	EIDE/ATAPI HD/CDROM/ZIP/LS120/SyQst drvr	34.95	SPK-2W-PSU	Mains PSU for SPKR-2W	4.95
DVR-EZIDE-CU	P/x upgrade to EZIDE from compet product	19.95	SPK-60W-INT	5.25" int'l mount 60WPMPO speakers/amp	29.95
DVR-EZIDE-SP	EIDE/ATAPI enhancer/CDROM s/w bundle pri	17.50	VID-CAM-COL	Colour videoconf camera composite video	159.95
DVR-EZIDE-UG	P/x upgrade to EZIDE from Eye-sup IDEfix	12.50	VID-CAM-PSU	PSU for colour video camera	9.95
DVR-SQ3	ScanQuix3 w/ 1 Amiga driver as specified	59.95	VID-PRGB-PCM	Prograb 24 digitser with PCMCIA i/f	119.95
DVR-TBPR5	TurboPrint 5.x Amiga printer driver	36.95	ACC-040-25	Apollo '040 MMU/FPU 25MHz A1200 accel	128.95
DVR-TBPR6	TurboPrint 6.x Amiga printer driver Engl	38.95	ACC-040-33	Apollo '040 MMU/FPU 33MHz A1200 accel	158.95
CD4-BARE	Bare 4-speed CDROM mechanism	39.95	ACC-040-40	Apollo '040 MMU/FPU 40MHz A1200 accel	188.95
CD8-BARE	Bare 8-speed CDROM mechanism	49.95	ACC-060-50	Apollo '060 MMU/FPU 50MHz A1200 accel	268.95
CD16-BARE	Bare 12min/16max-speed CDROM mechanism	58.95	ACC-060-66	Apollo '060 MMU/FPU 66MHz A1200 accel	328.95
CD24-BARE	Bare 24 speed ATAPI CDROM mechanism	67.95	ACC-30LC-25	Apollo 030/25MHz/MMU/FPU (8MBmax) accel	68.95
CDR-BARE-2/8	Internal ATAPI CD-R 2xwrite 8xread	299.95	ACC-30LC-25+4	Apollo 030/25MHz/MMU/FPU + 4MB (max 8MB)	79.95
FDD-EXT-880	External slimline FDD with pass-thru 23p cable	34.94	ACC-30LC-25+8	Apollo 030/25Mhz/MMU/FPU w/ 8MB (max)	89.95
FDD-INT-A1200	Replacement A1200/600 int FDD 880KB	24.95	ACC-30LC-33	Apollo 030/33MHz/MMU/FPU (8MBmax) accel	79.95
FDD-INT-BARE	Bare 1.44/880 FDD for tower (needs i/f)	24.95	ACC-30LC-33+4	Apollo 030/33MHz/MMU/FPU w/4MB (8MBmax)	89.95
FDD-INT-D/C/I	Twr int 880Kb FDD(Sony/EZDF0/cab bundle)	39.95	ACC-30LC-33+8	Apollo 030/33MHz/MMU/FPU w/8MB (max)	99.95
FDD-INT-DRINT	Twr intl 880Kb FDD (Sony/EZDF0) No cable	34.95	ACC-630-33	Apollo '030 MMU/FPU 33MHz A600 acc to 32M	88.95
HD2-21	21MB 2.5" hard drive 90 days warranty	34.94	ACC-630-33+4	A600 accel 030/33MHz/MMU/FPU/4MB (max32)	99.95
HD2-170	170MB 2.5" hard drive	69.95	ACC-630-33+8	A600 accel 030/33MHz/MMU/FPU/8MB (max32)	108.95
HD2-720	720MB 2.5" hard drive	129.95	FPU-PGA-40	MC68882 PGA FPU 40MHz OK for 50MHZ	39.95
HD2-1.4	1.4GB 2.5" hard drive for Amiga	169.95	FPU-PLC-33	MC68882 33Mhz PLCC FPU no xtal	24.95
HD2-1.8	1.8GB 2.5" Hard Drive	189.95	FPU-PLC-33X	68882 33Mhz FPU & xtal for accl/mem bds	29.95
HD3-1.2	1.2GB 1"x3.5" IDE HD TowerDrive for Amiga	109.95	FPU-XTL-33	33MHz crystal oscillator for FPU	5.00
HD3-1.7	1.7GB 1"x3.5" IDE HD TowerDrive for Amiga	119.95	MEM-16MB-72P	72 pin 16MB 32 bit simm for Amiga	39.95
HD3-2.11	2.1GB 1"x3.5" IDE HD TowerDrive for Amiga	139.95	MEM-32MB-72P	72 pin 32 MB 32 bit simm for Amiga	79.95
HD3-3.2	3.2GB 1"x3.5" IDE HD TowerDrive for Amiga	164.95	MEM-4MB-72P	72 pin 4MB 32 bit simm 70 ns	13.75
HD3-4.3	4.3GB 1"x3.5" IDE HD TowerDrive for Amiga	199.95	MEM-8MB-72P	72 pin 8MB 32 bit simm for Amiga	24.95
HD3-1.2-UF	1.2GB 1" x 3.5" unformatted bare IDE HD	99.95	MEM-ZIP-20P	1MB(2chip)60ns Zip RAM HMS514400-6 Pg md	14.95
HD3-1.7-UF	1.7GB 1" x 3.5" unformatted bare IDE HD	109.95	DISK-880	880KB blank diskettes duplication qualit	0.29
HD3-2.1-UF	2.1GB 1" x 3.5" unformatted bare IDE HD	124.95	NET-REF	Internet reference book	6.95
HD3-3.2-UF	3.2GB 1" x 3.5" unformatted bare IDE HD	149.95	APC-EZTW-SIA-CF2	EZPC SiSys Ethernet 2.1/32/16x/32v/s/w mpeg	999.95
HD3-4.3-UF	4.3GB 1" x 3.5" unformatted bare IDE HD	189.95	MOU-PC-PS2	PC PS/2 type mouse 2 button	9.95
HD3-LS120	Panasonic LS120 floppy/optical 1.4/120MB	89.95	MOU-PC-SER	Serial mouse for PC 2-button	9.95
HD3-LS120-CT1	Single 120 MB cartridge for LS120 drive	14.95	PC-W95/SS97	Win 95R2 & Lotus Smartsuite97 bundle	99.95
HD3-LS120-CT3	3-pack of 120MB (nominal) LS120 carts	34.95	CD-SW-PK1	CD software pack 1 - 5 x Amiga CDROMs	10.00
HD3-ZIP-CT1	Single 100MB (nominal) Zip cartridge	14.95	SYS-SIA-RTG25	Siamese system software RTG v2.5	99.95
HD3-ZIP-CT3	3-Pack of 100MB (nominal) Zip cartridges	34.95	SYS-SIA-RTD25-ETH	Siamese sys 2.5 w/PC,Amiga ethernet	199.95
HD3-ZIP-IDE	Bare ATAPI/IDE Zip drive internal	89.95	SYS-WB3-DSK	Amiga Workbench 3.0 disks x5	14.95
FAN-60MM	Cooling fan for A1200 60x60x25mm 5/12v	14.95	SYS-WB3-SET	Amiga Wb 3.0 disks x 5 + Worbench manual	18.95
FAN-FG-60	Finger guard for 60mm cooling fan	4.99	SYS-WB3.1-DSK	Amiga Workbench3.1 disks x6 (/w HD inst)	19.95
FAN-LP	Low profile fan 45x45x11mm 12v w/heatink	9.95	VID-CKT-SP	Cocktel Amiga videoconf'g s/w for ProGrab sp.pr.	49.95
KBD-A1000	A1000 keyboard with 6-pin mini-Din cntr	44.95	ADPT-KBD-SX32P	SX32 Pro PC k/b adapter cable 0.1m	9.95
KBD-A1200	Replacement A1200 k/b w/ribbon cable	24.95	CD32-JOY	CD32/SX32 joypad	9.95
KBD-A4000	A4000 k/d,6-pin mini-DIN, takes A1200 keycaps	39.95	CD32-PAL	CD32 console with 18Wpsu/joypad/RF lead	149.95
KBD-WIN95	Windows 95 keyboard with 5-pin AT DIN pl	19.95	SX32-MK2	SX32 Mk2 Ram/Clock/FPU expander for CD3	149.95
MIC-FLEX	Multimedia microphone with flex neck	9.95	SX32-P40EC	SX32Pro030EC 40Mhz simm to 64MB, FPU sk	199.95
MOD-EXT-14	Modem AT 14.4dat/14.4 fax+EU psu/tel cab	19.95	SX32-P50	SX32 Pro 50MHz '030/MMU Simm, FPU skt	269.95
MON-17-.26	17" SVGA monitor .26DP 1600x1280@75Hz	399.95	A12-MGK-PROF2	A1200 Magic pk '040/16mb/2.1/PCkb/16xCD	799.95
MOU-BLK	Amiga mouse - black - with mousemat	8.95	A12-MGK-FDD	A1200 Magic pack FDD vers /w s/w as adv	189.95
MOU-MAT	Mouse mat	1.99	A12-MGK-FDTWR	A1200 magic pack with EZ-Tower	349.95
MOU-WHI	Amiga mouse - white/cream -with mousemat	9.95	A12-MGK-PRD2	A1200 Magic pack 170MB HDD 030/33/8MB	329.95
PLUG-IEC	Rewirable IEC monitor plug for PSUs/MT/DT	4.95	A12-MGK-MTCD	A1200 magic pack MTwr, 16xCD, 040/25+16	599.95
PSU-230	230/250w replacement PSU for MT/DT/FT	29.95	FIT-EZ-MAIN	A1200 to EZ-Tower fitting - A1200 +FDD	30.00
PSU-A1200	A1200 23W PSU (new & origl) 90 days warranty	19.95	FIT-EZ-XTRA	Fit per cust-supp peripheral into EZ-Tower	7.50

Apollo Accelerators

A600 - **33MHz '030 with MMU & FPU exp to 32MB** *£89.95*

A1200 25MHz '030 with MMU & FPU. (5 Mips) *- Just £68.95*

A1200 33MHz '030 with MMU & FPU. (7 Mips) *- Just £79.95*

A1200 25MHz '040 with MMU & FPU. (19 Mips) *- Only £128.95*

A1200 33MHz '040 with MMU & FPU. (25 Mips) *- Only £158.95*

A1200 40MHz '040 with MMU & FPU. (30 Mips) *- Only £188.95*

A1200 50MHz '060 with MMU & FPU. (39 Mips) *- Only £268.95*

A1200 66MHz '060 with MMU & FPU. (39 Mips) *- Only £328.95*

4MB - £13.75; 8MB - £24.95; 16MB - £39.95; 32MB - £79.95

Limited offer - 20% off these memory prices when purchased with an Apollo!

ScanQuix3 Software

for all Epson parallel or SCSI & HP, Mustek, & Artek SCSI scanners

"An excellent piece of software" Gold award - Amiga Format 11/97

- √ 24 bit scanning with full range of editing options
- √ 'Scan-to-disk' option in Jpeg or IFF
- √ Stand-alone use or integrates with your Art package (Photogenics, ImageFX, AdPro, XiPaint, Pagestream 3, DPaint5, ArtEffect, PPaint)

ScanQuix v3.0 *only* £59.95

A1200 *TowerDrives* & *InstantDrives*

Thinking of buying a **BIG** drive? Dont waste your money on ***ANY DRIVE OVER 4.3GB*** as the Amiga O/S doesn't support it! (2^32-1 bytes actually). They appear to work but overwrite the RDB after 4.3GB into the drive. Be warned!

- √ All drives come ready-to-use with WB3.0 preinstalled & WB2.x install script.
- √ All drives over 100MB come with over 45 top quality utilities (not shovelware) ***and*** MMe multimedia authoring software preinstalled, configured and ready-to-run.

TowerDrives:

		1.2GB	£109.95
1.7GB	£119.95	2.11GB	£139.95
3.2GB	£164.95	4.3GB *(to the limit!)*	£199.95

2.5" InstantDrives for the A600, A1200, SX32 & SX32 Pro

20MB	An entry-level drive ideal for the SX32Mk2 and A600. Limited stocks	£34.95
170MB	A 2.5" drive siutable for the SX32Mk2 and for the A1200/A600	£69.95
720MB	The ideal drive for serious users of the A1200 and the SX32 Pro	£129.95
1.4GB	This high performance superslim drive is ideal for power users	£169.95
1.8GB	This top-of-the-range drive is perfect for the A1200 & SX32Pro	£189.95

IDE CDROM mechanisms & unformatted 3.5"HD's

(Components for the experts! - No cables, s/w, screws or instructions supplied)

Why not add another CDROM . . .

4speed - £39.95; 8speed - £49.95;16speed - £58.95; 24speed £67.95

. . . or hard drive to your Tower system!

1.2GB - £99.95; 1.7GB -£109.95; 2.11GB - £124.95; 3.2GB - £149.95; 4.3GB - £189.95

50% off EZ-IDE with an HD or CDROM purchase

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UK m'land next day insured del'y charges: S/w, cables, buffered i/f £3; 2.5" drives, accel's, £6; manuals £7; 3.5" drives, PSU, SX32 £8.50*; CD+, MTwr £10*; EZTW & EZPC £15. (*2day)

Ring/fax/email for other delivery costs

UK bank/BS cheques, Visa*, Mastercard*, Switch, Delta, Connect, Postal/Money orders accepted. * A 3% charge applies to c/c orders. Due to space limitations some of the specs given are indicitive only - please ring/write for further details. **Please check prices, specs and availability before ordering. If ordering by post please include a contact phone no.** Goods are not supplied on a trial basis. A1200 items are tested with a Rev 1.D.1 motherboard - other boards may need modification.E&OE. All prices include VAT at 17.5%. VAT is not applicable to non-EC orders

Which Inkjet?



The best Amiga printers on the market fully tested in **Larry Hickmott's** definitive roundup.

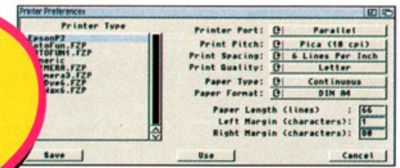
Printers have always been, and probably always will be, the most popular peripheral bought for a computer. However, buying a printer for an Amiga brings with it special problems which are easily avoided as long as you follow the advice in features like this.

In this *Amiga Format* special printer roundup we've brought together some of the best inkjets money can buy and given them a thorough testing with Amiga applications such as *Wordworth 7*, *DrawStudio 2*, *PageStream 3* and *TurboPrint's Graphics Publisher*. To drive all the printers, we've enlisted the services of *TurboPrint 6*, which is also reviewed in this issue. *TurboPrint 6* was used because it was the only package at the time with dedicated drivers for all of the printers tested.

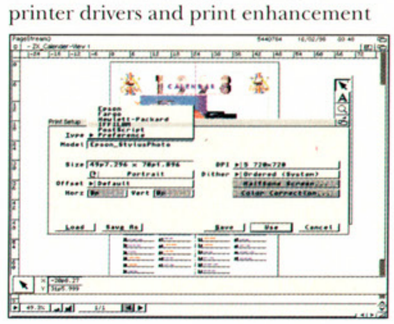
Let's start at the beginning and discuss printing from an Amiga so you can understand the significance of printer drivers and print enhancement packages. The starting point for connecting a printer to an Amiga is the cable. This is a Centronics parallel cable, the same as PC owners use to connect their PCs to printers. Make sure your printer has a cable included when you buy it or you could be left having to search for one after getting it home.

Once your Amiga and printer are joined you'll need a printer driver. This takes the information produced by your Amiga applications (*Wordworth*, *Personal Paint* and so on) and converts it into a form the printer will understand. Each printer has different features which the printer driver can turn on and off.

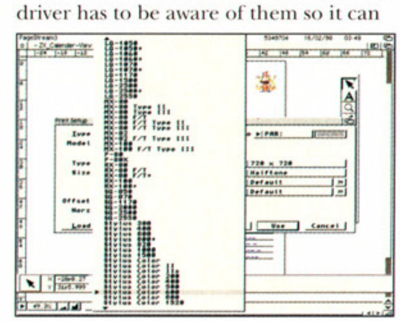
An example of this can be found in Epson's Stylus Photo. This printer uses five colour inks instead of three. In order for the software on the Amiga to make use of these extra inks, the printer driver has to be aware of them so it can



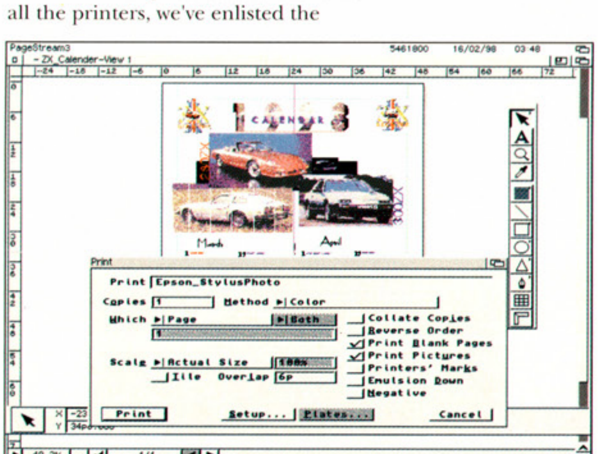
This is where you set the printer to be used with Workbench printer drivers. The printer drivers given away as standard with the Amiga operating system are next to useless if you want quality output from modern printers. Third party drivers, from packages like *TurboPrint*, *Studio II Professional* and various Shareware authors, do a much better job.



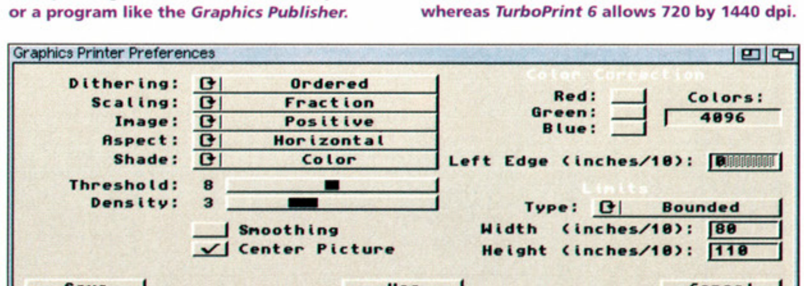
In *PageStream 3*'s Print Setup requestor you can choose from a number of different types of printers, as well as specific printers within each category. The IFF-ILBM-type is great for saving pages to disk as 24-bit images and then printing them from another computer or a program like the *Graphics Publisher*.



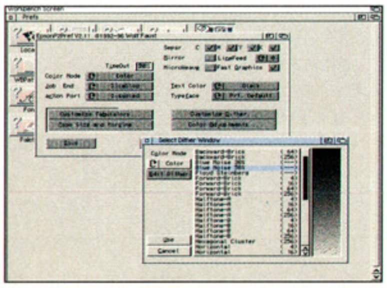
Even though *PageStream 3* has its own drivers, like this one for the Stylus 600, I still prefer to use a package like *TurboPrint 6*. Notice from this grab that the maximum resolution allowable for the Stylus 600 using *PageStream*'s own driver is 720 by 720 dpi, whereas *TurboPrint 6* allows 720 by 1440 dpi.



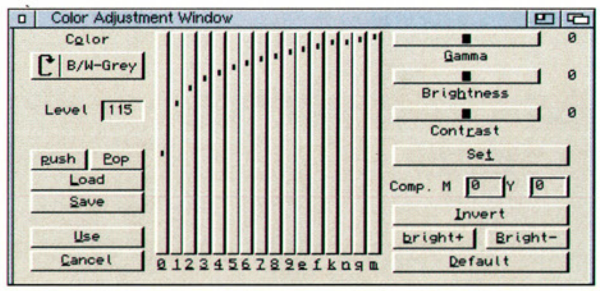
Here we see that *PageStream 3* has picked up the driver selected in *TurboPrint 6*'s *TurboPrefs*. As befitting a program as powerful as *PageStream 3*, it has more printer options than any other application outside of printing enhancement packages.



The settings for controlling the quality of graphics output from your Amiga from *PrinterGFX* is nothing short of antiquated compared to the huge number of controls you have with *TurboPrint 6* and *Studio II Professional*.



***Studio II Professional*'s preferences application has more dithers than you can poke a stick at. Compare this to those in Workbench's PrinterGFX (Prefs) and you'll see why I so strongly believe that a printing enhancement application really is vital if you own a modern printer and want to get the most from it.**



The big failing in *Studio II*, from my point of view, is the complicated nature of its Colour Balance requestor. It may be more powerful, but I find the one in *TurboPrint 6* much easier to use.

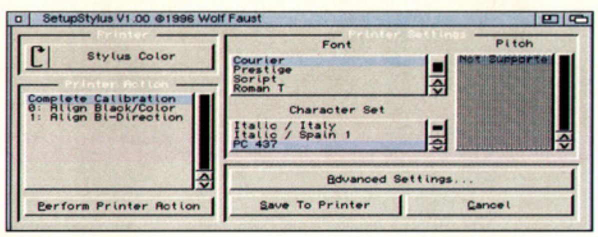
use them in the same way it uses the other three colour inks. Without a dedicated driver, the extra two inks are useless. Anyone with a Stylus Photo can test this by using a Stylus 500 driver instead of the Photo driver and then looking at the difference. That's the first part of the printer driver equation.

The second part is about graphics output. The poor old Amiga's printing system (Printer Preferences) has not been updated for a very long time. Not since I bought my very first printer, a DeskJet 500, in fact. So, not only are the Amiga's printer drivers way out of date, but the printer device (in Workbench:Devs) and its associated preferences utilities (in Prefs) through which all output must travel, is also sadly way beyond its sell-by date.

A powerful but also complicated application from *Studio II* that lets you control the features in a Colour Stylus (Epson) which once used to be controlled by buttons on the printer itself.

Some software like *Studio 2 Professional* does manage to work successfully with the existing printer device, while other software like *TurboPrint 6* patches the printing system so all output goes through its own, more up to date, printer device.

The significance of all this is that you must remember that driving a printer is not just about having a piece of software (printer driver) which can communicate with a printer. It is also very important to have the tools to produce great quality graphics to feed the printer. This is why products like



SHAREWARE

If you have Internet access, take a look at Aminet where you will find drivers for a number of the printers reviewed here, as well as updates for *Studio II Professional* and *Canon Studio*.

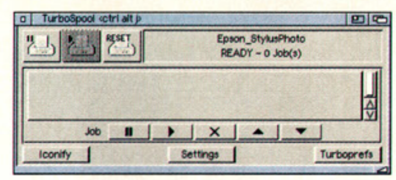
TurboPrint and *Studio II Professional* are so badly needed on the Amiga.

To sum up printer drivers, rule number one is to make sure a dedicated driver is available for your printer or is going to be available before splashing out on the hardware.

Rule number two is that when choosing that printer driver, make sure it comes as part of a complete print enhancement package such as *Studio II Professional* or *TurboPrint 6*.

A driver on its own just will not do. If you don't believe me then try it for yourself. There are no short-cuts if quality output is your goal.

Continued overleaf ➡



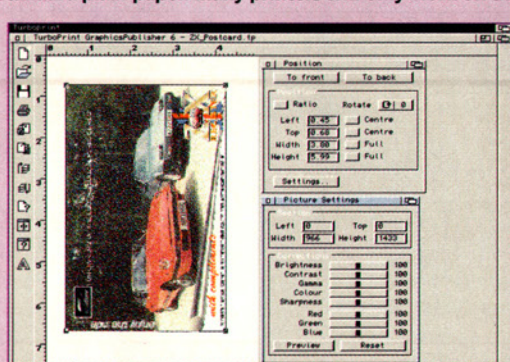
***TurboPrint* now comes with a print spooler. This helps to free up applications, doing the printing faster as files are re-routed to disk and then queued by the spooler which organises the printing of all of the files in the background.**

TESTING TIME

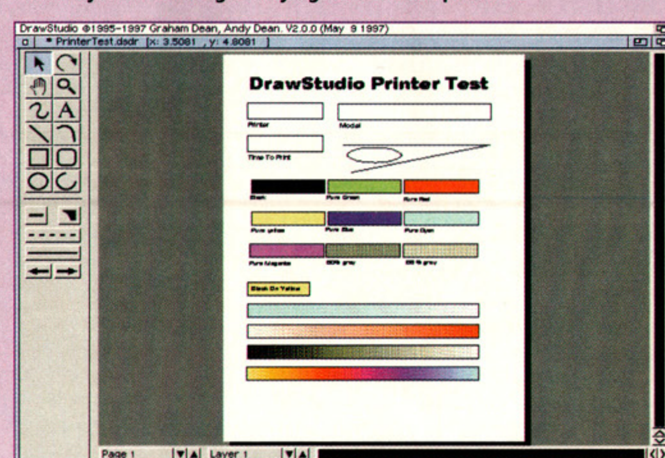
Onto the printer tests devised to assess each printer's ability to produce sharp text, photographic images and true to life colour. The tests included the photographic test using *TurboPrint 6's Graphics Publisher*, the desktop publishing test using *PageStream 3* and, to finish off the colour tests, *DrawStudio 2* was used to print a colour chart. One more test was left and that was the letter-writing task from *Wordworth*, produced in black and white. During the tests, each printer was timed using the same printer software and the same speed Amiga, which was a 68060 Amiga 1200 with 18Mb of RAM.

Where possible, the media from the manufacturer was used as well as standard plain paper. Many printers will only work on their own media or a media designed for that printer by a third party. Using the Epson coated paper with the Canon printers, for example, did not produce very good results, whereas on Canon paper the quality was much improved.

Before I finish, a couple of points about the printers we chose to review. As well as the printers you see reviewed here, there were two other DeskJets, a 720C and an 890C. The 720C did not work at all with the Amiga, although I did test it with a PC and the printer was operating fine. As for the 890C, it had an operating error which could only be diagnosed using PC software which the Amiga obviously does not have. Bear this in mind if you're thinking of buying one of these printers.



The first test was from *TurboPrint 6's Graphics Publisher*. A photographic image was used to test each printer's ability to output true photo-realistic images onto special glossy paper. Only the Stylus Photo was able to do this with photos and text. The Photo Kits for the Canon printers did improve their photographic output, but text on pictures suffered.



One of the tests which can trip up many printers is a colour chart, complete with solid blocks of colour and gradients. This was output in 24-bit from *DrawStudio 2* via *TurboPrint 6*'s own printer device. Printers like the Stylus Photo have no trouble with solid colours like green, whereas other printers have to use a dithering technique using only three inks to simulate the colour, with the end result being a very noticeably dithered (dotty) green. The Stylus Photo still dithers to create colours like green, but having two extra colour inks means that the dithering can be hidden from the naked eye.

Epson Stylus Colour 600



Supplier: *Epson UK (Tel:01442 61144)*
Price: *RRP£260.85/Street £198.58 (inc VAT)*
Requirements: *Dedicated printer driver and enhancement package.*

When Epson came up with a printer that produces the quality this model is capable of, and then discounted it so much that if you look around you can buy it for under £200, they produced a real stunner. At the time of its introduction, the Stylus Colour 600 stood head and shoulders above the opposition. Today, most manufacturers have worked hard to make up ground and to some extent they have. However, for an Amiga, the Stylus Colour 600 still leads the way.

Overall, this printer surprised me in that I expected it to be better than the Stylus Photo in many areas, but this was not the case. However, with a price around sixty pounds less than the Stylus Photo, you do have to ask if a small difference in quality is worth the extra money.

The answer is open to question, but I would add that if you do a lot of photographic work, especially with people, then the Stylus Photo is the better option. If not, the Stylus Colour 600 is the next best thing to perfection.

When it comes to attaching the Stylus Colour 600 to an Amiga, *TurboPrint 6* has a dedicated driver for it and, even without having to make any adjustments, the quality from the word go was superb. Test number one was from the *Graphic Publisher* and this was accomplished a few seconds quicker than the Stylus Photo. The quality of the printed photo wasn't quite as good as that from the Stylus Photo as the colours noticeably dithered.

The second test revealed that on plain paper and even on coated media the Stylus Colour 600 was marginally worse than the Stylus Photo, which, considering the 600's higher resolution, shows that a higher resolution doesn't always equate to better quality. I should stress that the quality is very good anyway, but the Stylus Photo is still slightly ahead.

Test three printed in six minutes, the same as the Stylus Photo. At last the Stylus 600 showed that the extra resolution does make a difference, as the greyscale images were slightly better than those from the Stylus Photo in greyscale mode.

The final test is useful because most colour inkjets are incapable of producing a flat colour like a green without having to dither. This produces flat colours that end up looking all "dotty".

The Stylus Colour 600 did reasonably well with this test even though it just failed to match the Stylus Photo, which did a brilliant job as expected.

HOW DID THEY DO

Each printer is judged on speed and quality for all the tests and marks. These are the tests used:
Test 1 = A5 Landscape 6x4 PhotoPrint from *TurboPrint's Graphics Publisher*. The picture was produced in *DrawStudio*, saved out as a bitmap 1400 pixels wide and then rotated ready to load into the *Graphics Publisher*.
Test 2 = A4 Calendar from *PageStream 3*. Here's a project we can all do at some time – produce a calendar for the coming year. With text and pictures, it needs a good printer to do both well.
Test 3 = Letter from *Wordworth*. One of the most common tasks you will undertake is letter writing. For this test, we take a standard black and white letter in *Wordworth* and then print it using *TurboPrint 6*.
Test 4 = Colour chart printed from *DrawStudio 2* directly to *TurboPrint 6*. This shows how well each of the printers outputs the solid colours which many models find difficult, as well as gradients, fine lines and text.

Test 1: *Graphics Publisher* –	Time: 3.05 minutes	Quality = 8
Test 2: Desktop Publishing –	Time: 22 minutes	Quality = 8
Test 3: Letter from *Wordworth* –	Time: 6 minutes	Quality = 8
Test 4: *DrawStudio 2* –	Time: 7.30 minutes	Quality = 9



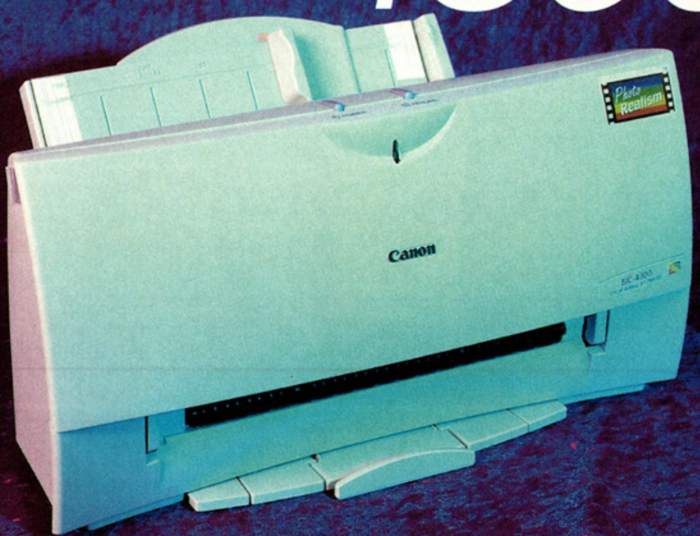






94%

Canon BJC-4300



Supplier: *Canon UK (0990 143 723)*
Price: *RRP £210.33/Street £151.58*
Requirements: *Printer driver which is available free from Canon UK or you could look to packages such as TurboPrint 6 or Studio II Professional.*

The BJC-4300 is a four-colour printer which enables you to print at a maximum resolution of 720 by 360 dpi and costs around £40 less than something like the Epson Stylus Colour 600. This resolution is supported by *TurboPrint 6*, which is the driver I used to test the printer with. As a four-colour printer, the BJC-4300 comes with a single black ink tank, along with a three-colour one. The tanks are in the same cradle and Canon tell me that both of them can be replaced without having to buy a new printer head.

The BJC-4300 shares many of the same features as the BJC-250. Not only is it a small, top-loading printer, the BJC-4300 has a unique power supply. Although this is still external, it plugs into the back of the printer without leaving a power brick to clutter up your desk. Hewlett-Packard really should take note of this.

After all of the tests were completed, my impression of the BJC-4300 was of a printer that has definitely improved with age but which still has some way to go to produce the quality you currently get from the Epson range. If you have a PC, however, remember that you can get a scanner head for the 4300 that costs around £60, making it a lot more than just a printer.

The BJC-4300 only has two buttons, with everything else controlled by software. Not that I needed to do much to get the tests under way. Once a driver had been installed (*TurboPrint 6* has a dedicated driver), the first test was soon underway and before long I had my first results.

Although the BJC-4300 promised a lot, with its stated resolution coming close to matching that of the Stylus Photo, the rather coarse dithering evident in the photographic test from the *Graphics Publisher* left me rather disappointed.

However, there is a photo-realism cartridge available as an optional extra for this printer. The cartridge is four colours instead of the three colour and black of the conventional system. Also supplied was some paper specifically designed for the photo-realistic cartridge and the driver in *TurboPrint 6* was a dedicated BJC-4300 Photo one.

With all this in place I tried the photographic test again and, although the photo was better, the text on the image was extremely poor. This could be down to the settings in *TurboPrint* needing to be adjusted. However, having been given only four sheets of paper, I didn't really get the chance to do a lot of adjusting in order to produce the results which I was looking for.

Despite this restriction, I did manage to improve on the initial test. If all you want to print out is a picture then yes, the photo-realistic cartridge will give you better quality results.

The second test from *PageStream 3* confirmed that although we're told the maximum resolution is 720 by 360, the picture created on very good quality paper has the look of a printer with a maximum resolution of 360 by 360.

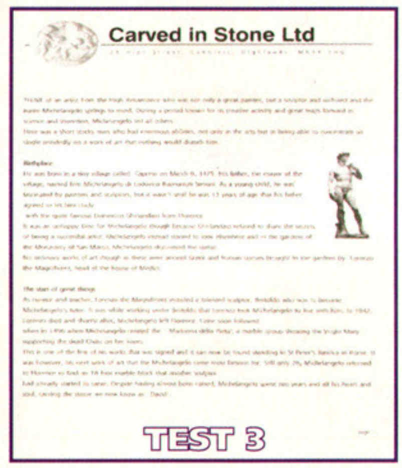
The test from *Wordworth* in greyscale was much more impressive though. The quality was better than any of the Stylus printers, which just goes to show that, at least in greyscale, the 4300 can out-perform the Epson models.

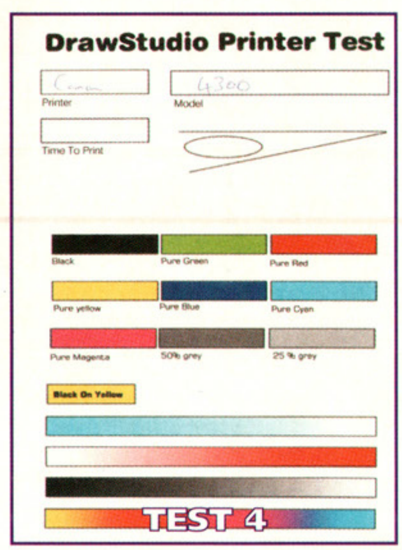
Unfortunately, the final test from *DrawStudio* failed badly, particularly with black on yellow bleeding and with the solid colours appearing to be noticeably dithered.

Test 1: Graphics Publisher –	**Time: 3.09 minutes**	**Quality = 7**
Test 2: Desktop Publishing –	**Time: 15 minutes**	**Quality = 7**
Test 3: Letter from Wordworth –	**Time: 4.50 minutes**	**Quality = 9**
Test 4: DrawStudio 2 –	**Time: 5 minutes**	**Quality = 6**









89%

Continued overleaf ➡

Canon BJC-250



Supplier: *Canon UK (0990 143 723)*
Price: *RRP £151.58/Street £111.63*
Requirements: *Printer driver which is available free from Canon UK or you could look to packages such as TurboPrint 6 or Studio II Professional.*

It didn't take long for the BJC-250 to make an impression. It was while taking the printer out of its box that I couldn't help but notice its size. The Epson printers are not exactly big but the BJC-250 was noticeably smaller again. This reduction in size is probably helped by the fact that the BJC-250 has a separate, external power supply.

The key point worth making about the Canon BJC-250 is that it's cheap. Very cheap. With a street price of just over a hundred pounds it's almost half the price of many of the top printers in this review. The reason it's cheap is that it is a fairly low spec machine. This isn't a criticism, but it's a point worth noting before we go through the printer tests.

The maximum resolution of the BJC-250 is 360 by 360 dpi and it is capable of printing in either black and white or in colour by swapping the black cartridge with a three colour one. This is important because printers with only three colours don't tend to produce as good a quality colour as those with a four or more colour printing system.

There is no doubt that a hundred quid buys a lot more of a printer than it did only a few years ago. The BJC-250 is a useful little printer for those who are willing to put up with colour quality that is short of what the Epson Stylus models are capable of, and the BJC-250 does produce good quality black and white output.

The first two tests which involved the use of colour were done using the colour cartridge along with the fourth test from *DrawStudio*. The quality of the photographic image in test one was surprisingly good from the BJC-250. Although the dithering was noticeably coarser than the results from other printers, as it would be at the lower resolution of the BJC-250, the quality of the colour was very high. Colours like reds and blues were reproduced as good as they were on any of the other printers, although blacks were understandably a little on the green side as there was no black ink used.

The test from *PageStream 3* comprises a lot of black text along with pictures and colour graphics. At first glance the output looks very good, but look closer and you can see that areas of black still have the composite colour appearance about them. Again, colour photographs and so on were quite good, if a little coarse in the dithering. Finishing off the colour tests was the one from *DrawStudio*. With colours like green you could see the speckled appearance and, worse still, the black on yellow was quite rough with bleeding between colours evident. However, the gradients didn't look too bad at all.

The final test was the one from *Wordworth*. This required the colour cartridge being replaced with the black one. There was an immediate improvement, with the quality being very good for a printer in this price range, especially when the output was printed on Canon's own coated paper.

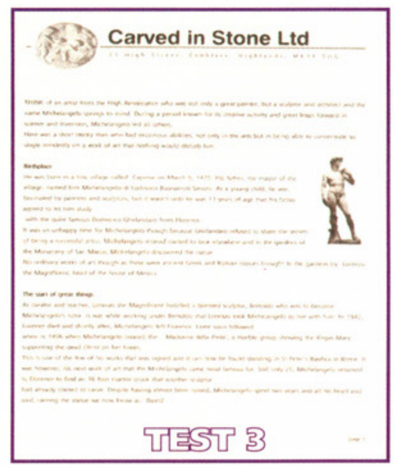
Canon have always supported the Amiga in the past and, although no new drivers were available to drive the BJC-250, I was told by Canon UK that free printer drivers are available that will drive the BJC-250 from Canon's help desk (who can be contacted by calling 0990 143 723). The driver, however, is listed for the BJC-240, with one for the BJC-250 still under development.

TurboPrint 6, the software used for all the printers here for consistency, does come with a driver for the BJC-250 and has a Photo option, which we didn't have time to test.

Test 1: Graphics Publisher –	Time: 2.58 minutes	Quality = 5
Test 2: Desktop Publishing –	Time: 10 minutes	Quality = 5
Test 3: Letter from Wordworth –	Time: 3 minutes	Quality = 7
Test 4: DrawStudio 2 –	Time: 5 minutes	Quality = 5









88%

Hewlett - Packard **Deskjet** 670C



Supplier: *Hewlett-Packard UK (0990 47 47 47)*
Price: *RRP £180.95/Street £135.13*
Requirements: *Printer driver in packages such as TurboPrint 6 or Studio II Professional.*

How times change. Many moons ago, I paid more than £400 for a black and white DeskJet 500. Nowadays you can pick up the four colour (black, cyan, magenta and yellow) DeskJet 670C, a printer which has evolved from the DeskJet 500, for around £135. If nothing else, at least you seem to be getting a lot more for your money these days.

Apart from the obvious addition of colour and some slight design changes, the DeskJet has not really been changed a lot over the years. It's still a front loading printer with a footprint larger than most of its competitors. Hewlett-Packard still use a rather annoying external power brick, which a smart designer would create as a "clip on" for the printer itself.

The ink tanks and printer head are also still part of the one unit, so when you renew the cartridge you get a new print head into the bargain. The printer now only has two buttons. If you want to do mundane things like clean the print heads, you will need some software (such as *TurboPrint 6*) that turns this on and off.

The maximum resolution of the 670C is said to be 300 by 300 on normal papers and 600 by 300 on glossy. *TurboPrint* certainly gives you those options but, judging by the quality, the resolution doesn't actually appear to have changed, despite the fact that a lot of the tests were performed using Hewlett-Packard's own media.

The first test undertaken with the DeskJet 670C was the photograph from the *Graphics Publisher*. It's hardly surprising that the results were not as good as those produced by the Epson Stylus range. Instead, they were similar to the Canon 4300, which is another four-colour printer.

It's important to put this into perspective because, although the Stylus printers do cost more, I am still fairly certain that the new Stylus 300 would produce better quality printouts than the 670, and the Stylus 300 printer is in a similar price bracket to the 670.

The *PageStream 3* test was printed onto glossy paper using the maximum resolution allowed for colour, which is 600 by 300 dpi. The pictures were again quite coarsely dithered and the text, which was printed out on the best paper that you can use with this printer, was as good as you would expect it to be at this resolution.

I followed this test with the one from *Wordworth* in greyscale mode at 600 by 600 dpi. At this resolution, the result really should have been comparable to the Stylus printers, but alas they were not. Even on glossy paper, the text was still fairly broken up.

On the final test, using *DrawStudio*, it performed better than both of the Canon printers, handling the solid colours fairly well. However, there was some banding which no amount of cleaning would remove.

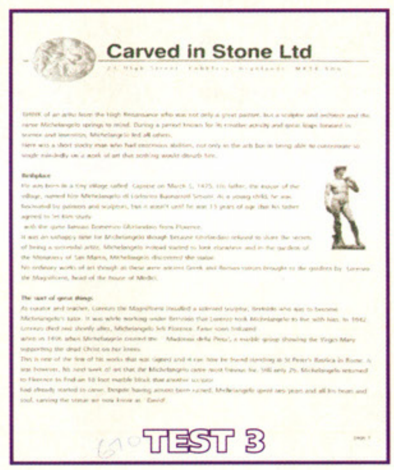
In summary, like the other 500 and 600 series DeskJet printers that preceded it, the technology in the 670C is surely past its sell by date even at these prices. So although it isn't actually a bad printer, it just isn't as good as many you can get.

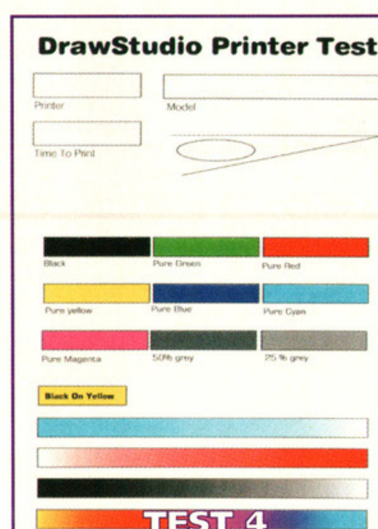
This is a shame because it would be good for the market if Hewlett-Packard came up with a printer that was on a par with the Epson range. The new 720C comes close but, as it didn't work with the Amiga, that's completely irrelevant.

Test 1: Graphics Publisher –	Time: 3.23 minutes	Quality = 6
Test 2: Desktop Publishing –	Time: 12 minutes	Quality = 6
Test 3: Letter from Wordworth –	Time: 4.30 minutes	Quality = 6
Test 4: DrawStudio 2 –	Time: 6 minutes	Quality = 7





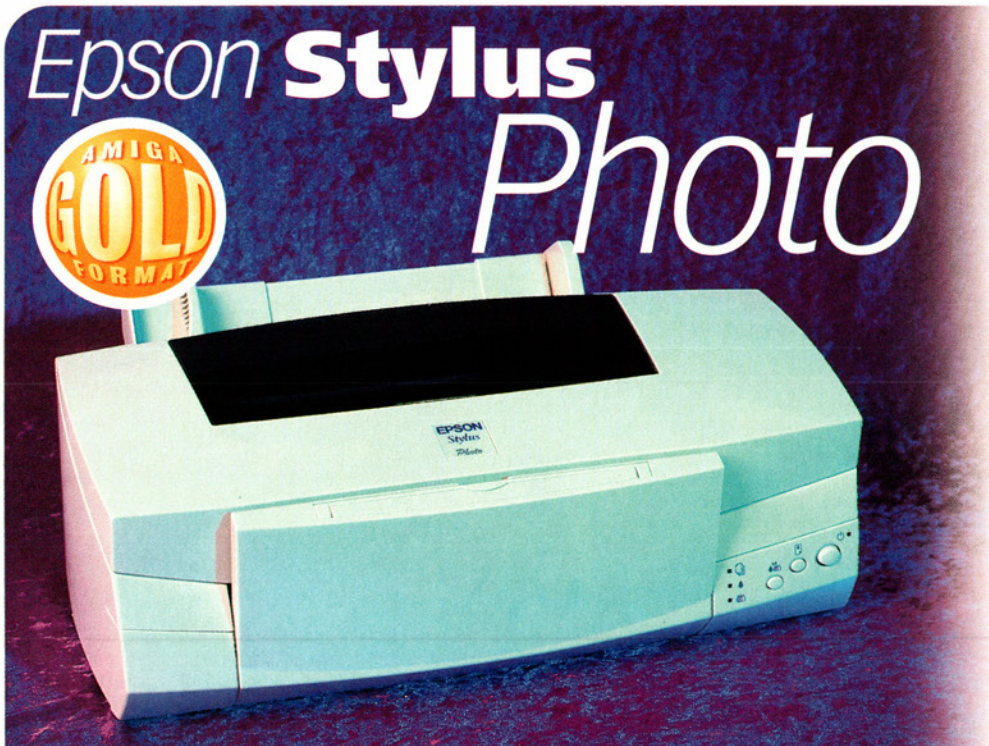




89%

Continued overleaf ➡

Epson **Stylus** Photo



Supplier: *Epson UK 01442 611 44*
Price: *RRP £340.75/Street £271.43*
Requirements: *Dedicated printer driver that uses all five colour inks as well as print enhancement package for producing photo-quality output.*

One of the advances that has been made in recent years with inkjet printers aimed at home users is the ability to print true photographic quality images with no sign of dithering. One of the most popular of these printers is the Epson Stylus Photo, which costs around sixty pounds more than the Epson 600, uses five colour inks instead of three and has a maximum resolution of 720 by 720 dpi.

After a few days using the Stylus Photo, I have to say that this is my favourite printer of all time. Even more fun that the Stylus Colour 1520 I already own. Not only can I do all the stuff I normally do, such as produce calendars, letters and so on, but I can also produce photographic material as good as you would get from a photo lab. Very highly recommended.

Using the Stylus Photo with an Amiga is fine as long as you have version six of *TurboPrint* or the special Epson version of *TurboPrint* from Power Computing. Both packages have dedicated drivers for this printer. In the following tests, the driver software was left unchanged from the defaults after installation, except for the dithering which was changed to Super-Diff.

PRINTER PRICE CHART

PRINTER/PRICE	RRP	STREET
Stylus Colour 600	£260.85	£198.58
Stylus Photo	£340.75	£271.43
Canon BJC-4300	£210.33	£151.58
Canon BJC-250	£151.58	£111.63
DeskJet 670C	£180.95	£135.13

Please Note: Street prices vary from retailer to retailer.

As expected, the Stylus Photo performed extremely well in the first test with the *Graphics Publisher* and a photographic image. The test print was output in a fraction over three minutes and the quality was indeed photographic. The next test from *PageStream 3* comprised of a page of text and photos on Epson's own coated paper.

Text on the page was as sharp as you would want at normal viewing distances and the photos on the page were rendered superbly. Printing on plain paper revealed some feathering of the text but that's pretty normal as it's the paper that causes the feathering and not the printer.

Printing from *Wordworth*, I selected the Generic driver and let *TurboPrint* pick up the greyscale output. This was the only time the Stylus Photo fell short of the high standards it has set itself.

The problem with the quality lay in the dithering of the greyscale images. Unlike colour images which are smooth and devoid of dithering thanks to the five inks it can use, greyscale images are no better than those produced by most other inkjets and certainly not as good as those produced by the Stylus Colour 600. Text was fine, by the way.

The final test from *DrawStudio* again showed the advantages of using the two extra ink colours. Flat colours like green were reproduced with little visible dithering, something inkjets have always had a problem with. However, the black text on yellow showed some jaggies on the black, although there was no bleeding which can be a real problem with this type of element.

Test 1: Graphics Publisher –	Time: 3.10 minutes	Quality = 9
Test 2: Desktop Publishing –	Time: 18 minutes	Quality = 8
Test 3: Letter from Wordworth –	Time: 6 minutes	Quality = 7
Test 4: DrawStudio 2 –	Time: 8 minutes	Quality = 9







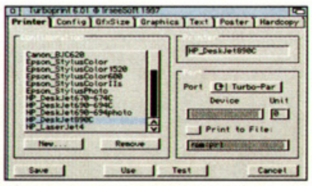


96%

TurboPrint 6

Now you've got your printer you'll need some top class software.

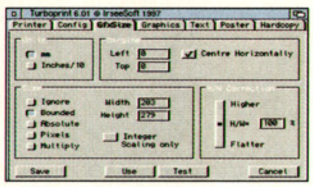
Let's discuss the different applications you get with *TurboPrint 6*, the software we used to drive the printers on review. These applications are *TurboPrefs*, *The Graphics Publisher* and *TurboSpool*.



From this panel in *TurboPrefs* you can add as many printer drivers as you like to the list, choose to print to *TurboPrint*'s printer device or to disk as well as test the printer.

TURBOPREFS

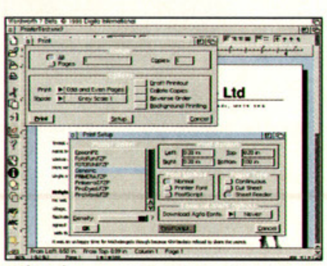
This is the application that contains all the funky stuff to control your new printer. It has the printer drivers supporting printers past and present as well as new ones to drive the Stylus Photo, Stylus 300, DeskJet 890C and others. *TurboPrefs* is more than just about drivers though. With colour printers being the most popular buy these days, there has to be a way of altering the colour balance of images printed from your Amiga, and with *TurboPrefs* this task is very simple to take care of. You can also use *TurboPrefs* to set the preferences for creating posters, printing files to disk, changing the dither used, selecting the type of paper in your printer and a whole lot more.



Like a lot of settings in *TurboPrefs* there are plenty of functions for you to play with on this requestor. However, in most cases I use the defaults which are already set.

GRAPHICS PUBLISHER

One of the utilities that's worth the price of the program alone for me is the *Graphics Publisher*. This application lets you print 24-bit pictures in all their glory and has seen many improvements over the years. First Irseesoft added support for multiple pictures and now, in version 6, you can add text to your graphics. Images can also be cropped.



***Wordworth* is quite unique in that it allows you to select the printer driver from Print Setup. For use with *TurboPrint*, I select Generic.**

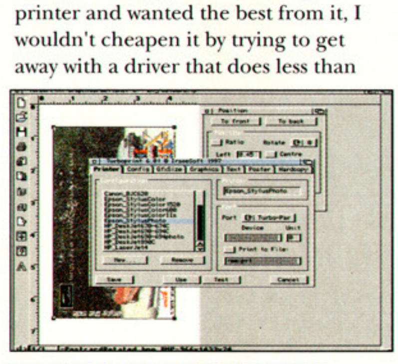
TURBOSPOOL

The third utility worth mentioning is *TurboSpool*. This application is used to intercept your document and, instead of sending it to the printer, *TurboSpool* sends the files to disk first and then sends them to the printer in the background. This frees up the application doing the printing more quickly as *TurboSpool* can send the file to disk faster than the printer can process all the information.

SUMMING UP

After five solid days of testing *TurboPrint 6* with seven different printers I have nothing but praise for it. It does everything you would expect of such an application and even more things that I wouldn't expect it to do.

Quite simply, if I was buying a new printer and wanted the best from it, I wouldn't cheapen it by trying to get away with a driver that does less than *TurboPrint 6* can. It's as close to a perfect printing system on the Amiga that we've ever seen and long may it continue.



***TurboPrefs* is also accessible from the *Graphics Publisher* so you can make last minute changes to your printer.**

TURBOPRINT EPSON EDITION

From long time Amiga suppliers Power Computing comes *TurboPrint – Epson Printer Edition*. This is a special version of *TurboPrint 5* which includes the latest drivers for Epson printers (and only Epson printers) but does not include the *Graphics Publisher*. What this means to anyone who gets this version is that TurboPrefs is the same as what is included with version 5 of *TurboPrint*, but it also includes Epson printer drivers that you can only can get with *TurboPrint 6*, such as those for the Stylus Photo printer.

With no *Graphics Publisher* you will not be able to print images in 24-bit from normal Amiga applications that do not support 24-bit. The quality will still be better than you've probably ever seen before, but when you print things like gradients you will see that the stepping of shades which you do not get from the *Graphics Publisher* will be present if you print from something like *PageStream 3* (Preferences driver), *Wordworth* and so on.

One application which avoids this is *DrawStudio 2* because it supports the *TurboPrint* printer device directly and doesn't need the *Graphics Publisher* like many other applications that have *TurboPrint* support. This means that you could effectively use *DrawStudio* as the *Graphics Publisher* for many tasks where 24-bit support is necessary.

Now for the good news about the Epson edition of *TurboPrint*. At the time of writing, Power Computing tell me it's free with a number of Epson printers. Buy it without a printer and it costs £29.95.

If you have any queries on this, call Power Computing (01234 851 500). Just remember that this version only supports Epson printers exclusively, and if you want to upgrade to the full of version of *TurboPrint 6*, you will need to do this through the publishers, Irseesoft in Germany. All of the details, including the documentation, can be found on the *TurboPrint* driver disk.

OVERALL VERDICT:
***TurboPrint* free with a printer sounds like a really cracking offer. Call Power Computing today.**

90%

STUDIO II PROFESSIONAL

There are a number of other driver packages available which do a similar job to *TurboPrint 6*. One of these is the long-standing *Studio II Professional* from HiSoft (0500 223 660). This is updated from time to time but these changes are quite minor compared to the ones seen in *TurboPrint 6*. For example, at the time of writing there was no printer driver for the Stylus Photo. *Studio II Professional* costs £49.95.

DISTRIBUTOR: Wizard Developments (0181 303 1800)
PRICE: £49.95
REQUIREMENTS: WB 2 +. HD, extra memory for Graphics Publisher.

SPEED: ●●●●○
Faster, but that doesn't necessarily mean quicker print times as it has to process more data.

MANUAL: ●●●○○
2 reasonable manuals provided.

ACCESSIBILITY: ●●●●●
Very easy to use, even when altering colour balances.

FEATURES: ●●●●●
More features than it needs, really.

VALUE: ●●●●○
Well priced for what it does.

OVERALL VERDICT:
Simply the best print enhancement package there is on the Amiga.

95%

EmuLatests



Simon Goodwin brings his series to a close after reviewing over 100 Amiga-compatible emulators.

ON THIS MONTH'S CD

AFCD25:-In_the_Mag-/Emulators

ON THE AFCD

SYSTEM EMULATION	MAME 30.1 (68060)	ECP/M
ACE (Atari 400/800)	MySNES AF 0.6b	Fast-Z80
AmiCPC 0.46	PC Task 4.4 demo	MFA Simulator
AmiSNESE 0.12b	PC Task 4.4 update	Ninja6502
ANES 0.99b	Trash-80 0.9a	SimCP/M
Apple][(no ROM)	V2600 0.82 beta VGB_PPC	Z80emulator
BKemul 2.0 beta	**PROCESSOR EMULATION**	**OTHER SUPPORT**
CoolNESs 0.59	A8085	PC-Task.guide
DarkNESs 0.22	Cross64	XFS 2.11 beta

This article rounds up all of the emulators which have not been mentioned before, and notes the latest advances.

PART 1 – ALSO-RANS

CP/M

Twenty years ago there was a 'standard' for business computers called *CP/M*, short for Control Program for Microprocessors. It was rudimentary but it guaranteed software support for new models. *CP/M* provided a bridge for 8080 programs to talk to terminals, floppy disks and paper tape punches, albeit for a lowest common denominator. A pervasive semi-standard was then born.

CP/M was prototyped on Intel's early 8008 but took off on the 8080, the first general purpose microprocessor, introduced in 1974 and much imitated. Zilog's Z80 is a souped-up 8080 variant. Intel fought back with a simpler follow-up, the 8085. All of these, and NEC's V-series, ran 8080 machine code with incompatible extensions.

SimCP/M 1.0 was the first Amiga CP/Mulator, a bare-bones 8080 emulation. *E/CPM 2.01* added just enough Z80 support to run *Turbo Pascal*. *SimCP/M 2.3* fought back with full Z80 emulation. Full source is provided, which is just as well as the code expects an original 68000 and needs tweaks for later processors.

CP/M is a curio. *MSDOS* is a close relative, adapted for the later Intel 8088 processor. Addressing limitations of the 8008 and 8080 continue to haunt the Pentium. With *SimCP/M* or *ECPM*, they can haunt your Amiga too!

ENGINES

Several emulators concentrate on processors rather than full systems. *Fast-Z80* is a Zilog interpreter derived from *Speccylator*, with full source code. Phil Brown's Freeware MSc project, *Z80emulator*, includes an integrated assembler and disassembler.

MFA Simulator emulates vintage Intel 8085 processors, still used as an introduction in German electronics courses. You'd have to be pretty keen on the 8085 to value this unless you're already on such a course. *A8085* is another in the same vein.

6502emu is a bare CPU emulator for MOS Technology enthusiasts who don't want to worry about the implementation of a specific system. *Ninja6502* is the CPU engine from *CoolNES*, in remarkably concise 68020 macro assembler. If you want to write 6502 code on your Amiga then *C64Ass* and *Cross64* fit the bill.

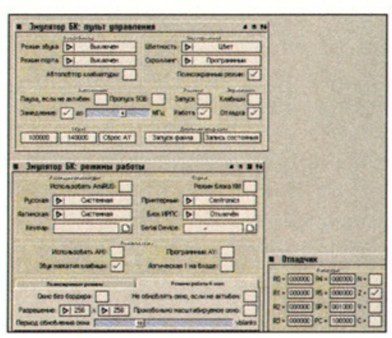
Motorola Freeware assemblers support 6800 and 6809 coders, amongst others, and run well on Amigas.



Almost emulated – Texas Instrument's silvery TI/994A.



Better handling of Mac file types is a Fusion 3 bonus.



Russian assembler meets *MUI*, via Denis Sotchenko's BKEmul.

> "Without software, new processors are only good for misleading benchmarks – emulators are the bridge..."

TRASH80

The TRS-80 Model 1 is almost as old as *CP/M*. We have a good emulator for its successor, the TRS-80 Model 3, but the authentic Model 1 emulator missed our Tandy feature last year. *Trash80* runs some software the Model 3 will not, without needing a separate ROM file.

The current version 0.9a has virtual cassette support, Z80 engine fixes and an authentic font. Printer and snapshot routines are promised and CatWeasel and XFS coders are investigating TRSDOS formats.

RELUCTANT TEXAN

The only emulator I can't get working is for the Texas TI-99/4A. It requires ROM images in a specific format and has very little documentation. The original author and the Amiga converter have vanished.

The TI-99/4A was the first 16-bit home computer, a bestseller in the USA. Its Texas Instruments 9900 processor is a cut-down minicomputer.

TI99/4A graphics hardware appeared later in MSX computers, which have been well emulated by Amigas, but this TI graphics emulation is incomplete, showing symbols where coloured blocks should appear in a small Workbench window.

Without ROMs, documentation or even colour graphics, *TI99.LHA* is not really a lot of use.

AND THE REST!

Some 'emulators' blur the line between appliances and computers. *TB303* emulates an analogue synthesiser, although the controls are fiddly and don't all work in real time.

Alcuin mimics the Saturn processor in Hewlett Packard's HP 48 super-calculator, requiring a serial link to the real thing to snaffle its ROM. *HP-CALC*

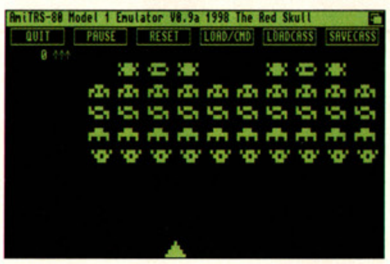


At last, *Silkworm* for the PDP-11.



Fusion+Coleco = Amiga ColecoVision, at last.

CoolNESs



CoolNESs leads the way for slower Amigas.

TRS-80 Galaxy Invasion blew Simon away, back in 1980!

emulates Hewlett Packard's classic HP-11 desktop programmable, cheating by using IEEE libraries to do its sums.

PART 2 - UPDATES

NINTENDOS

Nintendo emulation is a competitive arena. *ANES, CoolNESs* and *DarkNESs* are enormously improved from the versions reviewed in *AF* last year. Marat Fayzullin's Unix efforts set high standards for NES emulation.

Amiga coders have been catching up, converting generic C into efficient Assembly language.

ANES

ANES is now up to version 0.99b and is the best-presented of the Amiga NES emulators, with a 32K guide and an installer script. It even emulates cartridge memory back-up and Action Replay cheats. It's fast but it writes directly to OCS or AGA displays, stopping the rest of the Amiga while it's running. There's a speed limiter for 68040 and 68060 users with ordinary human responses!

Registered *ANES* users are rewarded with CD³² joypad, multi-player and three channel sound support, making games far more fun. The fee is 100 Swedish Crowns or US $15. Roll on, EMU…

GameGenie and NTSC support has been promised.

COOLNESS

Swedish rival *CoolNESs* has reached version 0.59, at last gaining a simple GUI. Registration costs £12, delivering sound, recently improved and removing an annoying ten minute timeout.

CoolNESs supports up to four controllers, including CD³² joypads. The strong point of *CoolNESs* is its performance on slowish Amigas.

Most games run fine on a 25 MHz 68030, and many are playable on a 14MHz A1200 with fast memory.

DARKNESS

Canadian coder Mark Van Hal's *DarkNESs* was the most compatible emulator in our first NES roundup, but it was also the slowest. Version 0.20 was totally recoded in assembly language, shedding sluggish C from *iNES* and gaining a GadTools front end. The latest version is 0.22.

DarkNESs has lost little in gaining speed and saving space. It still multi-tasks and supports graphics cards, unlike its rivals, with flicker-free double-buffering. *DarkNESs* is Giftware and really deserves recognition. However, the sound emulation is sadly lacking and the graphics speed lags behind the hardware-bashing emulators.

SUPER CONSOLES

There are now two rudimentary Amiga Super Nintendo emulators. Marat has set a challenging pace with fast workstation Unix versions. The custom hardware of the SuperNES is a tough nut to crack. Surprisingly, in view of its 68000-based design, there's still no sign of a Sega Megadrive emulator.

MySNES 0.05b requires AGA and at least 4Mb RAM. It won't multi-task and only supports ROMs of 1Mb or smaller, but it now allows scrolling and large sprites and runs quite a few demos, such as *BioWorm,* on our CD.

AmiSNESE 0.12e can barely display static screens, but targets graphics cards as well as AGA. Both have very necessary built-in debuggers. *MySNES* does more, but *AmiSNESE* is relatively system-friendly.

GAMEBOYS

WZonkaLad is now clearly the leading Amiga GameBoy emulator, though the slow Unix port *VGB* still has the edge in compatibility and an early PPC version reached Aminet just in time for our CD.

Since the last reviewed version (0.64), *WZonkaLad* needs slightly more memory but is faster with improved GUI and sound. Like *ANES,* it transparently supports XPK compression.

Version 0.98 comes in three versions, Full, Fast and Warp. Fast has simplified Z80 emulation and Warp skimps on interrupts. Full is the slowest but most compatible. *WZonkaLad* is retargetable via *AHI* and *CyberGraphX.* It can even run on Workbench, a feat previously unique to *VGB.* Registration costs 70 Finnish Marks or 15 US dollars and is required for sound.



Emulators abound for Nintendo classic *Zelda.*

V2600

Version 0.82 of the Atari 2600 emulator has a Workbench icon and GUI, dispensing with the antique command line interface but still carrying baggage like slow and logically redundant chunky to planar conversions. The sound remains incomplete and CPU-intensive.

AMI-JUANS

After a flirtation with AmiPC Engine, which never really worked, Juan Antonio Gómez Gálvez is concentrating on *AmiMasterGear,* his Sega emulator, and his first project, *AmiMSX2,* is somewhat hindered by his new job. *AmiMSX2* has reached version 2.5 but lacks documentation for the new features. *AmiMasterGear 0.40* boasts better sprite handling, snapshot support and many fixes, while rival *MasterGear* has gained a GUI and much-needed speed-up.

CPU COMPILERS

The most ambitious project in development is Hans Guijt's dynamic compiler for *fMSX.* This will be the first Amiga OS program to dynamically translate programs from Z80 machine language into 68000 code as it runs.

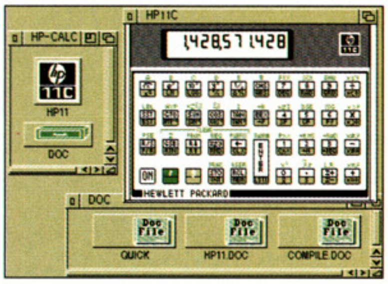
The new *fMSX* builds up a translation which the Amiga can run directly, avoiding the overhead of many 68000 instructions needed to fetch and decode each alien one.

A64 had a static compiler from 6502 to 68000 code, used to transliterate the C64 ROMs, but this was limited, unable to cope with programs that change on the fly. Memory paging and self-modifying code complicate dynamic compilers but make them potentially much more useful. Dynamic compilers are the way of the future.

MAME

The Arcade machine emulator *MAME* now supports 68060 systems properly, with improved compatibility and support for more games. ECS and AGA screens work better, and LHA, LZX and ZIP archives and stack space are

Continued overleaf ➡



Why not emulate a 'space age' HP-11 programmable calculator?

← expanded automatically. The downside is that the latest executable is two and a quarter megabytes long!

BKEMUL

The Russian PDP-11 emulator has gained speed regulation and icon control since its first release. Version 2 Beta has an assembler/monitor and loads of bundled games, but you will need the documentation from v1.6 to make sense of it.

AMICPC

AmiCPC has reached version 0.46, benefiting from many small fixes, far more English documentation, joystick and XPK support. It comes with French ROMs, expecting an AZERTY key layout, and still lacks printer and disk image output. However, it runs most CPC games very well.

AMIGA QDOS

At last, *Amiga Qdos 3.24* has drivers for the internal IDE interface of Amigas from the nineties. This allows access to *Qdos* files on hard disk without the hassle of going via a PC bridge board.

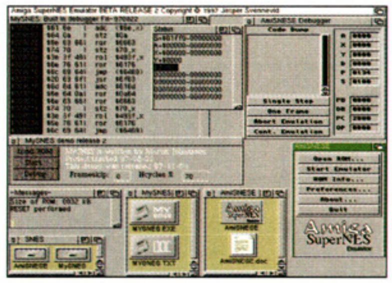
A2000 and A3000 owners need not feel left out, as Buddha controller IDE is also coming, giving access to up to six drives via Zorro 2. However, SCSI drives remain inaccessible until *Qdos* and Amiga OS can run simultaneously, except via support disk hacks for NCR SCSI controllers.

PC TASK 4.4

Chris Hames' *PCTask* has reached version 4.4, boosting compatibility. It now runs Windows 95, given a 68060, many megabytes of RAM and a following wind. The demo and update are on our CD.

FUSION 3

Fusion 3.0 arrived just before our deadline. It is not as major a revision as the number would suggest, but contains valuable bug-fixes and extra features. *Mac OS 8.1* now works, and there are extra options for 68060 compatibility.



Workbench debuggers are vital for SNES emulators.

You can now use multiple video cards and printer and serial units other than zero. File transfers are much faster, avoiding long delays at the start of emulation, and there's a database of file types so the Mac can recognise files when you move them from Amiga partitions. CDROM, hard file and SCSI support have also all been improved.

Remaining niggles include instability and inadequate documentation. My first trial ended with an illegal instruction fault and I've seen other peculiar errors since.

You lose all your configuration information when you upgrade, which is a pain because it takes a while to find a stable set of options. The virtual memory option still locks my Cyberstorm Mark 1. *Fusion* works well once tuned to your system, but that tuning remains a frustrating process.

CROSS EMULATION

Recently I lamented the lack of a decent Coleco emulator and explored some work-arounds. I now happily run ColecoVision games using *Fusion* and the Mac Coleco emulator. It's as roundabout as using *Mission* with *fMSX*, but is more compatible. I've also had some fun with C64 emulation under *Fusion*, although *Magic64* is generally a bit more useful.

Cross-emulation remains the only way to run Spectrum 128 software on an Amiga. *Speculator* runs some 128K snapshots and *ZXAM* emulates Spectrum 128 sound, but both lack fast, compatible support for memory paging.

This could use MMU hacks, but not everyone has memory management hardware and the techniques are rather system-hostile. *Qdos Spectator* and Unix Spectrum 128 emulators are the best bet for fast Amigas.

Access to 128K files is eased now that the Freeware *XFS* can read CP/M+ disks in the format used by the Spectrum Plus Three and PCW, though drive compatibility remains an issue.

XFS is now able to write to PC disks in HD or DD format, with Windows 95 long filenames included as well as MSDOS compatibility.

Version 2.11 reads Amstrad CP/M+, Mac and Minix disks, besides its original Atari ST/TT, Archimedes E format, *Qdos*, MGT SAM and Spectrum repertoire. Write support for those is promised, but formatting remains quite problematic as *XFS* uses one icon for every disk type.

UAE

Amiga *UAE* now has a *MUI* front-end, *Amiga Forever* gains TCP/IP networking and Cloanto have got to the bottom of my NexGen 586 problems.

It seems that's a steroidal 386 in a 486 socket, despite the name, lacking essential 486 instructions. And phase 5 is rumoured to have *UAE* running under PPC *Linux*...

RISC EMULATORS

Chris Hames is developing a *PPC-PC Task*. A version of *Fusion* for Power PC systems has been demonstrated but not yet released to Amiga users. Joe Fenton has worked on a PPC port of *ACE* and *A][*. Meanwhile the 68K versions appear on this month's *AFCD*.

VGB_PPC is the first emulator for Amiga Power PCs, faster than the same code on a 68060 but slower than hand-coded 68K GameBoy emulators. It requires at least version 45.5 of phase 5's PPC library and *CyberGraphX 3*. The authors of *ANES* promise a PPC version, after they find a suitable assembler...

Those curious about PPC programming should check out Aminet's *PPCAsmPk*, a PowerPC simulator and monitor for 68K systems, but don't expect speed! *AmiSPIM* does a similar job for MIPS R2000 and R3000 code, used on some consoles and old Unix workstations.

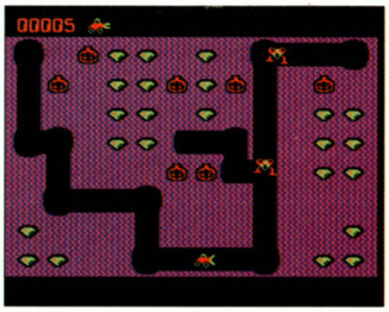
PROGNOSIS

Emulation is the future of all computers. Without it, the RISC core of a Pentium would not understand X86 machine code. 68K emulation is crucial to Mac OS Power PC compatibility and VAX and MIPS emulation are valued features of DEC Alpha systems.

Without software, new processors are only good for misleading benchmarks – emulators are the bridge that makes new hardware useful.

After over 50,000 words and 102 reviews this series is over, but *AFCDs* will keep you up to date with developments.

I may return when new emulators merit our attention. Meanwhile the Web pages listed below will report any progress as it happens.

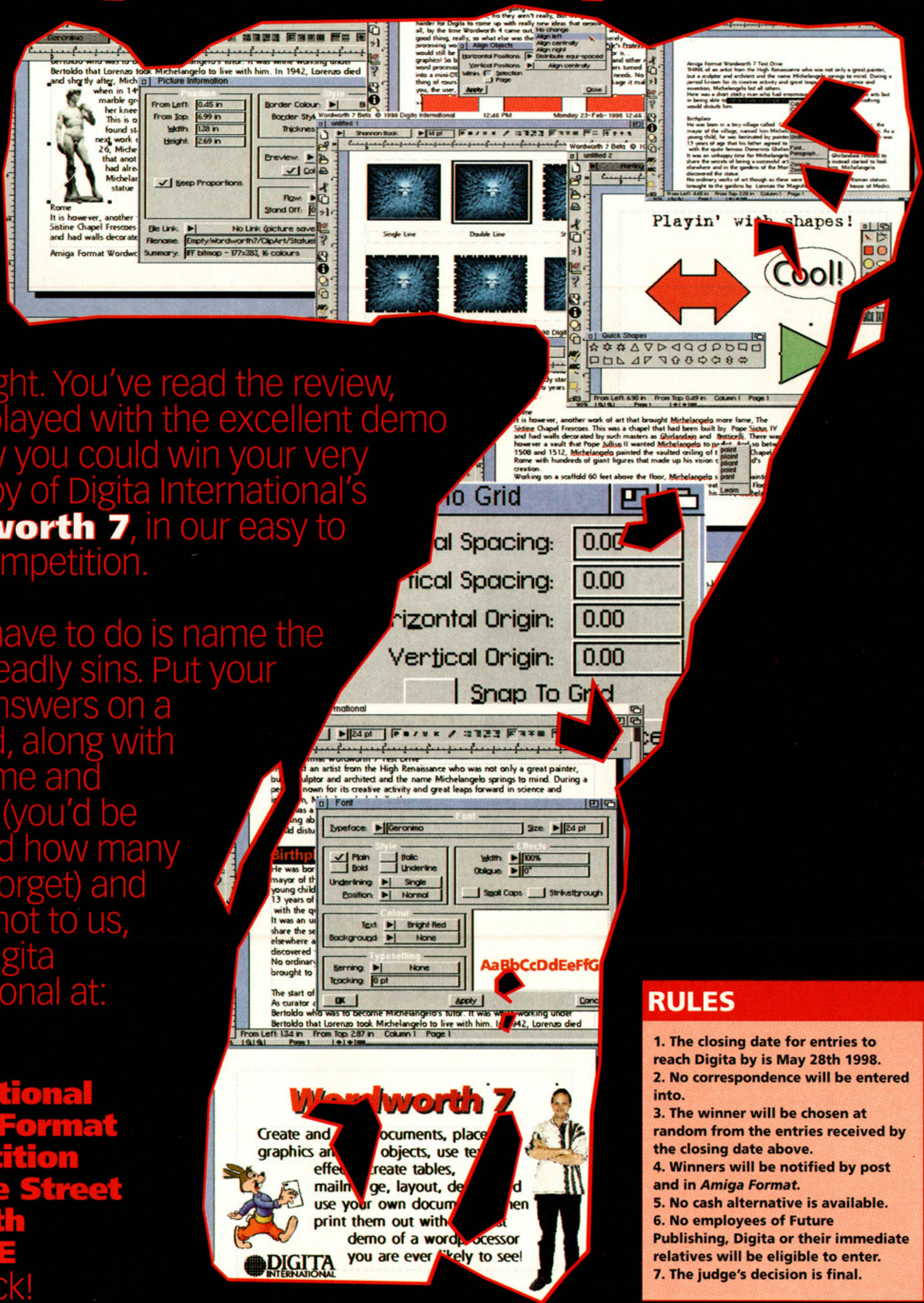


Remember *Digger*? BKemul has a faithful conversion.

EMULATOR WEB PAGES

AmiSNESE: http://ramses.ml.org/amisnese/
MySNES: http://www.dd.chalmers.se/~f94majo/mysnes/mysnes.htm
Amiga Emulators Central: http://www.classicgaming.com/aec/
Emulators for the Amiga: http://www.pncl.co.uk/~martinc/emulators/
Emulators Unlimited: http://www.aic.net.au/~rodneyn/
G's Amiga emulators: http://www.applausenett.no/~gdwarf/emu/

Competition! Wordworth 7



That's right. You've read the review, you've played with the excellent demo and now you could win your very own copy of Digita International's **Wordworth 7**, in our easy to enter competition.

All you have to do is name the seven deadly sins. Put your seven answers on a postcard, along with your name and address (you'd be surprised how many people forget) and send it, not to us, but to Digita International at:

Digita International
Amiga Format Competition
10 Rolle Street
Exmouth
EX8 1HE

Good luck!

RULES

1. The closing date for entries to reach Digita by is May 28th 1998.
2. No correspondence will be entered into.
3. The winner will be chosen at random from the entries received by the closing date above.
4. Winners will be notified by post and in *Amiga Format*.
5. No cash alternative is available.
6. No employees of Future Publishing, Digita or their immediate relatives will be eligible to enter.
7. The judge's decision is final.

UFO: Enemy Unknown

AFCD25:-CoverDisk-/UFO

ON THIS MONTH'S CD

Weird aliens with big elbows trying to take over the world? Things are getting strange, I'm starting to worry – this could be a case for **Nick Veitch.**

The aliens have arrived! And rather like a cross between *Independence Day* and *Starship Troopers*, it's up to you and your expert squad of X-Com soldiers to defend the planet from their evil plots.

UFO:Enemy Unknown is one of Microprose's most acclaimed games ever, and the full version, with a complete manual in AmigaGuide format, can be found on this month's CD. There are no catches – it's yours to keep!

GETTING STARTED

There are full instructions for running either the ordinary or AGA versions of this game in the readme file on the CD, but here is a quick guide:

- Choose your version. If you have an A4000 or an A1200, you will want to run the AGA version. You can still run the ordinary version if you prefer, but the graphics aren't quite as nice.
- Install or run from CD. Both versions can either be installed to your hard drive or run directly from the CD. If you decide to run from the CD then you will have to make a save disk (format a disk and name it UFOSaves) or assign UFOSaves: to a drawer on your hard drive where your games can be saved. It is important to do this BEFORE you start playing.
- If you wish, you can also decompress the original disks from the CD and play from floppy. We have no idea why you might want to, but the option is available anyway.
- The manuals are stored on the CD as AmigaGuide files, which means you can access them using AmigaGuide or Multiview. The guide files include the complete tutorials from the original manual. It is worth familiarising yourself with at least some of this material before you start playing.

> "Aliens come in many forms, so even if your shot hits, it may not be killed outright. Be very careful."

OVERVIEW

The overall objective of the game is to defeat the aliens once and for all, but at the start of the game you have little or no information about



When you first run the AGA version of the game you will be asked for a code number from a page in the manual. These page numbers, and the corresponding codes, are printed inside your CD inlay card.



Now the Geoscape map will open and you will be asked to select the site of your first base. It is a good idea to place it fairly centrally in a large land mass like Africa, the USA or the CIS. This makes it easier to defend your base, and more likely that you will shoot down UFOs over land.



Clicking on the Bases button lets you see inside your bases. You only have one at the moment but later, if you have the cash, you can build more to protect other parts of the Earth. The base shows you the facilities that you currently have and which craft are in their hangars.

them or their intentions – this knowledge will come as you examine alien artifacts recovered from your interception missions. You may also discover new technologies which can be used to develop new types of weapons and equipment for your troops.

Initially you will have one base, located wherever you wish. You will also have a small squad of soldiers, a contingent of scientists and engineers, a short-range radar and three different craft – two hi-tech Interceptor aircraft and a Skyranger transport.

While it is very important to intercept UFOs, shoot them down and recover the bodies and artifacts, you will also have to devote some of your time and finances towards research. Without it, you will soon discover that your soldiers are no match for the aliens in the field.

CASHFLOW

One of the most important aspects of the game, as you will soon discover, is effectively controlling your money supply. If you run out, not only will you not be able to afford any nice new equipment, but you probably won't be able to keep your units supplied with ammunition and guns or even pay the wages of your soldiers.

Your main source of income is from the sponsoring nations. Each country donates a certain amount each month, but the amount varies depending on how well you do. If you successfully repel an attack in Moscow, for example, you can expect the Russians to up their contribution. However, if you leave them to die then they probably won't give you any money at all.

It certainly pays to protect the countries which contribute the most – that is what they are paying you for after all.

When cash gets tight, you can have a useful sideline selling alien artifacts. Even corpses can make a bit of money, but weapons sell for big bucks. When you've discovered alien technologies and can manufacture them for yourself, you can make a reasonable working profit from producing different alien weapons and selling them. This does use up some of your precious resources though, so you have to be careful.

On the next few pages we will be showing you how to get off the ground with this excellent game. Full tutorials have also been included in the AmigaGuide file on the CD as well so, if you are still feeling confused, give those a go instead. Good luck!

Continued overleaf ➡



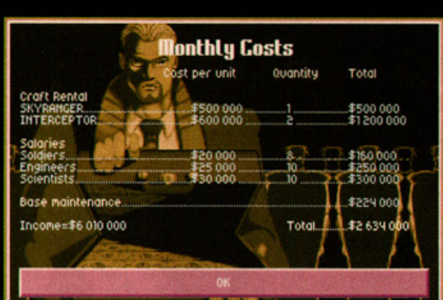
You can build more facilities in the empty space. A large radar should be the first priority. Click on the Facilities button and choose Large Radar System from the list. A flashing yellow square will appear – move it and click to begin construction. You can build next to any existing structure.



Return to the Geoscape and click on Research. You can assign your scientists to research a number of things initially. Potentially the most useful at the moment is the motion scanner. Click on it, assign some scientists and let them get on with it. They'll get back to you when they've made any headway.



Clicking on the Base Information screen will bring up a screen giving you loads of information about the currently selected base. You can find out how well defended it is and how much of the various facilities are being utilised, as well as what is currently in your storeroom.



The Costs screen will show how much the upkeep of the base and its personnel is draining off your bank balance. You have to spend wisely – if you run out of money you won't even be able to afford bullets for your guns! If you perform well, the International Community will reward you in cash.



Clicking on the Geoscape's Soldiers button brings up a list of that base's soldiers. Click on the individual names to get more info. The various attributes effect how the soldiers perform in the field. For example, Bravery determines how likely they are to panic. Don't worry, they will improve with practice.



Click on the hour button to make time go faster and then wait. After some time, you will get a message saying you have detected a UFO! Click on the Intercept button, scramble an Interceptor and select the UFO as its target.



When the Interceptor catches up with the UFO you can choose to attack it, follow it or run away. Click on the UFO button to see what you are following. If you are over water, click in the top-left corner gadget to follow the craft until it is over land.



Assuming you successfully shot it down, you can then click on the Intercept button again and send off your Skyranger to the crash location. Make sure your equipment is all in order (Equip Craft/Weapons) before you set off.



Now you've landed and the tension mounts. Who will be the first sap out of the back of the transport? What evil creatures lie in wait for your brave troops? See the Battlescape guide overleaf for more details...

Using the Battlescape

During the course of a typical game you will spend more than half your time in the Battlescape, so it is important to really understand how it works.

Firstly, it operates on a turn basis. This means that you get a turn to move all your units and perform any actions, then the aliens get a go, and so on until one side wins.

> **When cash gets tight you can have a useful sideline selling alien artifacts. Even corpses can make a bit of money…**

There is one notable exception to this which is "opportunity fire" and we'll be explaining that in a minute.

The Battlescape button bar is explained in detail at the bottom of this page. Apart from those controls, the only other thing you have to worry about is moving your men around.

When you enter the Battlescape you will notice a large flashing 3D box. To select one of your units, simply move this box until it surrounds them, then click with the right mouse button. A yellow arrow will appear above the unit to indicate that it is selected. To move this unit, all you have to do is move the box where you want the unit to move to and it will attempt to get there.



Touching down on an alien-infested landscape can be worrying. Send someone expendable out first in case the enemy are already waiting.

Movement is semi-intelligent. The computer tries to determine a path between the unit's current position and the selected destination. Sometimes this isn't possible due to the complexity of some of the landscapes, so nothing happens at all. In these cases, try planning the route in smaller steps.

Each soldier has an allotted amount of time units and once these are used up that soldier can't do anything else during your turn. Time units are used for everything your soldier does, including getting things out of a backpack, reloading weapons, opening doors and so on.

It is useful to save some time units for opportunity fire. Basically, if a soldier sees an alien during the alien's movement turn and that soldier has enough time units left, he will automatically attempt to fire at it. However, this works both ways so remember to be careful.



1. This window shows the item currently in the selected soldier's left hand.
2. On a turbolift, these buttons will allow the soldier to move up and down between levels.
3. These buttons change the displayed layer of the Battlescape. For more info, see the AmigaGuide on the CD.
4. Pressing this button will bring up the level map. Click on the OK button when you are finished.
5. This causes the current soldier to crouch (or stand if he/she is already crouching). Crouching improves firing accuracy.
6. Pressing on this will bring up the Equip screen for the selected soldier. If you move items around, the soldier will use up time units.
7. This button centres the display around the current soldier.
8. Skip to next soldier – selects the next available soldier.
9. Skip back – skips back to the previous soldier.
10. This button controls the number of layers displayed. If you display all the layers, some of your soldiers and some of the aliens may be obscured.
11. This allows you to set the in-game options and also to save your game at any point.
12. End of turn. Press this when you have finished moving and the aliens will get their go. Keep watching though, as you may glimpse them moving about!
13. Dust-off. Pressing this button causes the Skyranger to take off and head back to base. Once you've killed all the aliens, the Battlescape sequence will terminate itself, so you only need to use this if you're running away.
14 This box shows what the current soldier has in their right hand and, if it is a weapon, how much ammo remains.
15. The name and stats of the current soldier. If you click on the bars you will get the full information page for that soldier.
16. The rank icon for the current soldier. Rank has an effect on the way soldiers perform, particularly on their morale.
17. These buttons are used to reserve time units for opportunity fire during the aliens' go. Basically, they just mean that you can't use up the time which would be required for a particular type of shot while moving. Clockwise from top left they are:
None – no units are reserved.
Snapshot – only the time for a snapshot is reserved.
Autoshot – the time for an autoshot is reserved (but remember that some weapons do not have an auto-fire capability).
Aimed shot – the time for a proper, aimed shot is reserved.

To fire a weapon during your own turn, click on the weapon that is displayed in either the left or right boxes of the button bar. A menu will come up with all of the different types of shot which can be fired:

- Aimed shot – This requires the most time units but it is the most accurate. Unless your soldier is a crack shot, this is really the only practical way of firing at long range.
- Snap Shot – A quick, from the hip reaction shot. It is less accurate but it doesn't take as long.
- Auto Shot – Automatic weapons can fire a number of shots at a time. This is the least accurate, but it does give you several chances and it can be extremely useful at short range.


This demonstrates the Veitch-approved method of opening doors. Always use two soldiers, and make sure they have plenty of time...

When you have selected a shot, the cursor will change to a cross-hair. Now move the crosshair to the selected target, click again and the shot will then be made. Aliens come in many forms, so even if your shot hits, it may not be killed outright. Be very careful.

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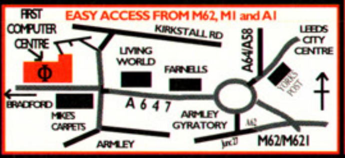
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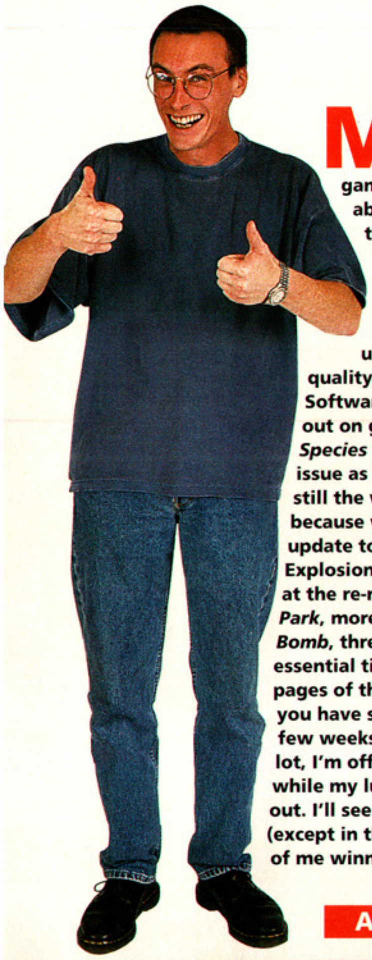
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Much of life is a gamble. We were gambling on being able to bring you the first full review of ClickBOOM's *Quake* this issue, but it is still undergoing final quality checking at id Software. We also lost out on getting *Genetic Species* in time for this issue as well. But you are still the winners really because we have an update to our Games Explosion feature, a look at the re-released *Theme Park*, more details on *H-Bomb*, three pages of essential tips and four pages of the great games you have sent us in the last few weeks. You enjoy this lot, I'm off to Las Vegas while my lucky streak holds out. I'll see you next month (except in the unlikely event of me winning anything!).

Andy Smith

AMIGA FORMAT'S REVIEW POLICY

WHAT OUR REVIEW SCORES MEAN

Every month we scour the world's software houses for the latest and greatest Amiga games. We try to ensure we keep you as up to date as possible and we'll stop at nothing to bring you the best, definitive, no-nonsense reviews of the games that matter.

90+%	The crème de la crème. Only the very best, most playable and original games are awarded an AF Gold – the most highly prized rating there is.
80-89%	These games are very good, but due to minor flaws are not the finest examples of their genre.
70-79%	Good games which are worth buying, especially if you have a special interest in a game type.
60-69%	Average releases with somewhat limited gameplay and appeal. Games in this category tend to be flawed.
50-59%	Below average games which are unlikely to impress your mates or your wallet. Avoid.
40-49%	Overwhelmingly poor quality games with major flaws and appalling gameplay.
Under 40%	The absolute pits.

Games Explosion! Update

More news on the games front from Vulcan. Ben Vost investigates.



Paul Carrington speaks out against pirates and retail nightmares.

Just like last year, there are always some great games that slip through the net. We get emails from irate authors wondering why they weren't featured in the feature, so to speak, and pointers to websites that we didn't even know existed.

The biggest news this month is the statement by Vulcan Software boss Paul Carrington that Vulcan are going to have to branch out of Amiga development and the reasons for it.

The original statement that Vulcan were investigating PC and PlayStation development was greeted with disbelief by Amiga loyalists, who bombarded Vulcan Software with emails ranging from an understanding of what was going on to threats of mailbombs for leaving the machine.

As always, things got blown out of all proportion and Paul Carrington felt he needed to explain to everyone what had happened, rather than explaining to the author of each email. Thus he posted a heartfelt statement on the web (which we really don't have space for here), blaming their decision on the size of the Amiga games market, the number of copies of each game they were selling and the fact that there wasn't much support from retail outlets around the world.

The fact remains that without retail support the Amiga games market is going to be limited to mail order operation, which not everyone is comfortable with as it requires a credit card or cheque book. If games were in the shops, people would see them, they would think more about the Amiga and so on and so forth. As an *Amiga Format* reader, it would almost certainly do the market good if you were to visit your local Electronics Boutique, HMV, GAME or other computer games store and politely request that they stock the Amiga games you're interested in.

That way, people outside our market will know for a fact that *Quake* exists on the Amiga, that *Myst* does too and that there are original games that we have on this platform that don't exist on any other.

We spoke to Paul Carrington from Vulcan asking him to further clarify his position. Here is what he had to say:

AF: Firstly, you'd better let us know what games you still have planned for 1998, and which ones have been cancelled.

VS: Our release schedule for the first half of 1998 on the Amiga is very strong. First up is the *Genetic Species* CD-ROM (3D Environment Game) which is 650Mb of pure talent. This should be released early in March.

Following that we will then release *Desolate* CD-ROM (Platform Shooter). This title is a tribute to the classic *GODS* game which was by the Bitmap Brothers.

Next up will be *Wasted Dreams* CD-ROM (Adventure), the huge 'Alien/Mystery' title which has over 400Mb of digital speech throughout and 1,000s of rotascoped actor characters for some ultra-realistic sprite movement.

Hot on its heels will be the *Genetic Species World Creator* CD-ROM, which will allow anyone to simply and easily create new 3D worlds for the expanding title.

That will soon be followed by *Hard Target* CD-ROM (*Virtua Cop* clone), which should prove to be very exciting and furiously extravagant.

Towards the end of 1998 we will be looking forward to *Explorer2260* CD-ROM and *Maim & Mangle* CD-ROM, which are both Amiga PPC specific titles.

Cancellations

Breed2000	CD-ROM
Valhalla 4	CD-ROM
HellPigs	CD-ROM
3D GamesCreator	CD-ROM

AF: Your reasoning for having to move into other areas of development and cut down on Amiga software is that people just aren't buying enough copies of your games?

VS: This is true. It's because of two things. The first is that the games themselves are harder to buy because you can't just walk into a shop and pick one up, and the second is piracy. Piracy harms all markets and it's only to be expected, but when the market is as small as ours it's stupidity. Only idiots pirate Amiga software.

AF: Thanks.

The overall situation with Vulcan is quite positive. By branching out into PC and PSX they will make themselves stronger for the Amiga market and also bring new ideas to it. As you'll see from the release schedule, there are going to be some very strong games coming from Vulcan this year, including titles that will really show the Amiga's strength when coupled with the PowerPC.













Genetic Species is looking to be one of the best 3D games for the Amiga – Quake notwithstanding.

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Previews






After what seems like ages since its first announcement, an Amiga version of Quake is finally here for us to test out... Ben Vost starts gibbering.

Quake

Quake	£TBA
Release Date:	Imminent
company:	ClickBOOM
email:	info@clickBOOM.com

The name of the game on everyone's lips this spring has to be *Quake*. You can just feel how massive it's going to be and anyone with an Internet connection is salivating at the chance to put PC owners in their place.

In case you really don't know what *Quake* is, I'm sure you can see from the pictures that it's a first person perspective 3D shoot-em-up game, commonly called a "corridor game" by American magazines.

What the pictures on these pages really don't tell you is how the game feels. As a single player game, *Quake* is pretty good. Creeping around the corridors in the early stages of the game before you really get armed up is scary in a way that *Doom* wasn't, mainly because of the fact that things are a lot less "cartoony".

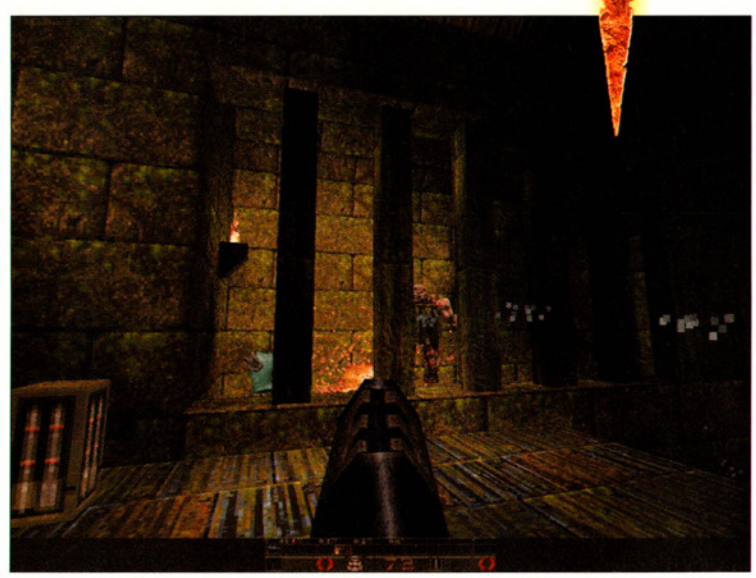
However, as a multiplayer game, *Quake* really shines. Any computer AI simply faints dead away at the kind of shenanigans a real-life human being can get up to in a multi-player game – hiding in darkened corners, chasing you in a sensible way and being completely unpredictable in a way that no computer can be.

If the powers that be are worried that all this computer and net use is causing people to become reclusive misanthropists, then the advent of *Quake* on the Amiga should turn the tables as gangs of Amigans wander the net, meeting new friends... and blasting them to pieces.

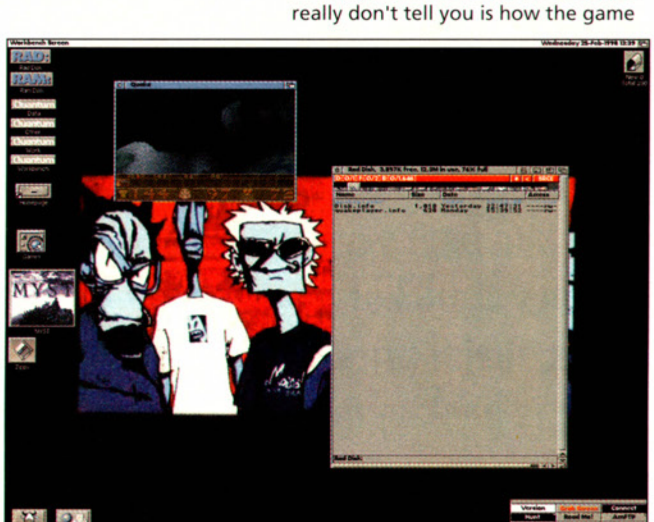
Although *Quake* on the PC has a long history, it's not half as interesting as that of its Amiga port. When an ftp server with Unix *Quake* source code was hacked into and the code stolen about two years ago, it was news on the net. Then came rumours of a shadowy team of Amiga programmers crowing that they had managed to get a working version of the game on the Amiga.

People started trying to find out more, but the team, a real bunch of recluses unwilling to put their heads above the parapet, clammed up even more and disappeared from public view lest id Software wished to have formal words with them.

The uproar about the possibility of an Amiga *Quake* died right down



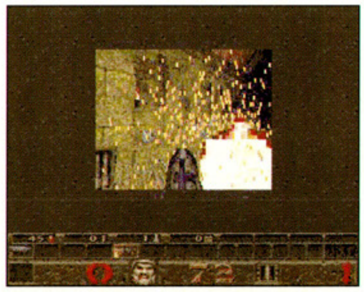
This resolution isn't playable, even for '060/gfx card owners, but it certainly makes nice pics for the mag.





Quake running on your Workbench (or DOpusbench in this case) is a good thing, but don't expect to multitask. Nothing to do with the computer, I just think you won't be able to drag your attention away from the game...





Not running fast enough in 1x1 mode? Run it in 1x2, odd or even odd2 to speed it up more.





Ways to speed up Quake



STANDARD 1X1 DISPLAY

ODD DISPLAYING EVERY SECOND HORIZONTAL LINE

ODD2 DISPLAYING EVERY SECOND HORIZONTAL & VERTICAL LINE

Amiga Quake has several facilities to help speed up the frame-rate for those with slower machines. The most obvious one is the fact that you can reduce the size of the playing area in the game, but when that's not enough you have further options exclusive to the Amiga version.

As you can see from the pictures on the left, Quake supports not only the standard 1x1 pixel mode, but also 1x2 and 2x2 for increasingly blocky images. It also supports their new odd and odd2 modes which remove, respectively, every other vertical line and every other horizontal and vertical line to help speed up the display.

The Amiga version also supports AHI which can be reduced in quality down to a minimum of 4KHz samples to help, or there is a dedicated sound driver custom written to use as little processor time as possible.

In any case, you're always going to be wanting a faster processor and graphics card if possible. Those with a bare bones AGA machine will get the most pleasure from upgrading, while those with fully-kitted out machines will just have to wait for a PowerPC version to come out.

and last summer ClickBOOM, intrigued by the possibility of an Amiga version that they had read about on the net and in magazines like ours, contacted id with a view to licensing. Then, very early this year, after posting strenuous denials for some time, they suddenly announced that they would indeed be releasing an officially licensed version.

At the time of writing we don't have the full game yet – no-one does since it hasn't gone to id for approval. Until that happens any details or screenshots should be taken as temporary. According to ClickBOOM, the approval process at id could take as little time as a week, but perhaps as long as a month.

While you may therefore have the game by the time you read this, it's more likely that you'll be waiting a little longer. The games industry is never as good as the magazine industry for keeping to deadlines, which is very frustrating for us, as I'm sure you can imagine.

The main question for *Quake* fans has to be whether their machines will be powerful enough to run the game. This isn't an easy question to answer since it'll depend on what size of screen you want, and how fast you'll want it to go. Those looking for a 30 frames per second frame-rate on their A1200s had better think again, but playable speeds are easier to achieve.

To give you some idea, on our bog standard office A4000 with about 10Mb fast RAM free, using the default 320x240 resolution, we can get it to run at an acceptable speed using about half that screensize while showing all pixels. Bear in mind that we're talking about an AGA machine with a 68040 running at 25MHz (about twice as fast as a 50MHz '030), but that memory access on this machine isn't fast, and neither's the screenmode.

On my machine at home, an A3000T with '060 at 50MHz, about 100Mb free fast RAM and a PicassoIV, I can run in an 800x600 screenmode using about half the screen area at a playable speed, but for really top notch rates I have to use a playing area of about 300x200.

The moral of this story is that the Amiga's planar graphics aren't best suited to games of this type and that having a chunky pixel display device (otherwise known as a graphics card) is what you need if you want to run *Quake* as fast as possible.

In fact, having a graphics card is marginally more important than having a fast processor, so if you already have a 50MHz '030 or an '040 accelerator, it would be more important for you to buy a graphics card than upgrade to an '060.

However, those that have less than this kind of spec will need to spend more money to at least get their processor speed up to scratch.

The fact of the matter is that *Quake* is the game that's going to get you to upgrade your machine – it's that good. What's more, we'll have the first exclusive review of it anywhere in the world for you as soon as it has been finished... next month we hope!

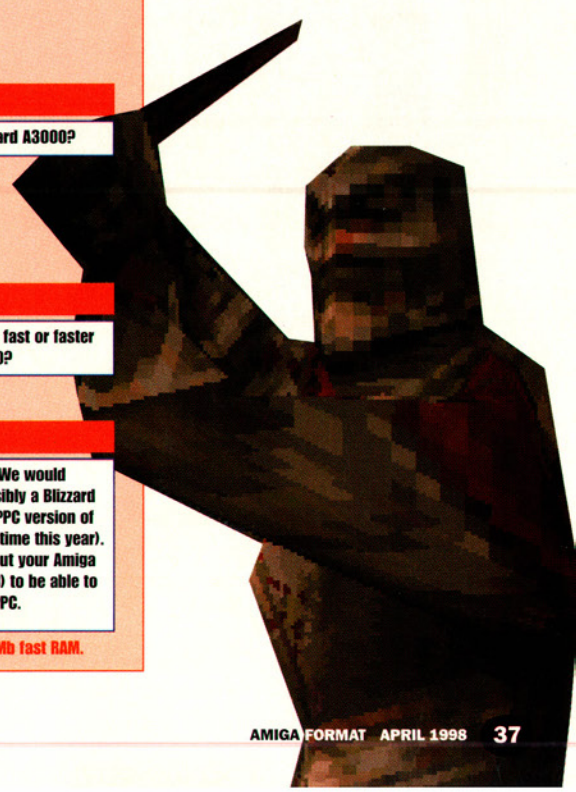


Those specs again... slowly this time

Do you have an A600, A500, CD32?

- **If yes:** Don't even bother. It would be cheaper for you to buy a second hand A4000 than to attempt to upgrade your machine to the necessary spec.
- **If no:** Do you have a bog standard A3000?
  - **If yes:** Get a PicassoIV card. This will ensure a playable game, but a faster processor would also be beneficial, if not a necessity.
  - **If no:** Do you have a processor as fast or faster than 50MHz '030?
    - **If yes:** Get a graphics card. You may need to get a Zorro card for your machine if you have an A1200. Zorro II won't be as fast as Zorro III, but Zorro III means that you have to have an A4000-type accelerator instead of an A1200-type one, so it might involve further expense. Look out for second hand big box Amigas instead.
    - **If no:** Get a faster processor. We would recommend an '060 or possibly a Blizzard PPC (since it's likely that a PPC version of Quake will also surface sometime this year). It may be that you need to put your Amiga into a tower (if it's an A1200) to be able to use the Blizzard PPC.

Don't forget that you'll also need a CD-ROM drive for your machine and at least 8Mb fast RAM.



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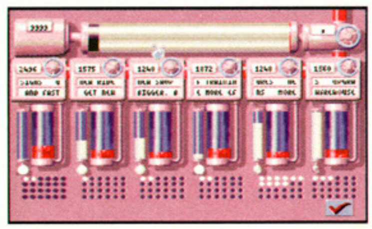
Theme Park

AMIGA GOLD FORMAT

Other people's leisure is Andy Smith's pleasure. Just don't put him in charge of anything important...

There was a fine docu-drama on the telly a while back about the running of Blackpool Pleasure Beach and I tell you what, it looked almost as much fun as playing *Theme Park*. At least there's no risk of seriously injuring a person just because you plonked a ride on someone's head (ahem).

Bullfrog's classic is back and this time it's on CD. The disc contains both the AGA enhanced version and the ECS version but you have to install the game to your hard drive anyway or else you won't be able to save your lovingly created places of recreation. And when it comes to installing, they could have picked a different font – green on green is difficult to see, chaps.





Setting the research budget (above) and negotiating the staff wages (right). It's all go here...



As you research the rides, more become available. But if you run out of cash you can't, er, afford 'em.



> It's a cracking game all right, but it would have been nice if there were some little extras added that made a difference.

For those who have been on Mars for the last few years, *Theme Park* is all about setting up and running your very own, erm, well, theme park really. Buy the rides, set up the shops, order the stock, buy shares in other theme parks, employ people to tidy the place up and entertain the crowds and generally look after everything and ensure you're making lots of money.

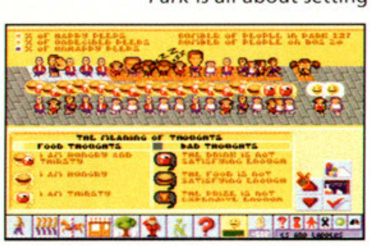
Making money's the hard part though. You've got to get the balance right or things just don't work. You may lose money for a while as things are getting started but it's knowing how to turn things around that's the key to success here.

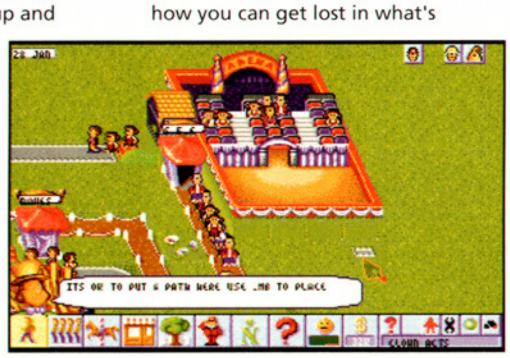
Controlling the action's been made as simple as possible thanks to a very clever interface (which does have its foibles but is fine once you get used to 'em) and it's amazing how you can get lost in what's essentially little more than a resource management game.

Is it still as good as it was when it first came out? Just about. It's a cracking game all right, but it would have been nice if there were some little extras added that made a difference. And that installing palaver is quite annoying.

If you haven't got it yet, you really should stop being so lazy. This is a cracking game that you're going to enjoy playing, so go get it.

Regularly find out what the punters think of your park and you'll have a better idea of what you should be giving them.









Wiffyland – the place where dreams become reality (ahem). It looks nice though, eh?

PUBLISHER: Guildhall Leisure (01302 890000)
PRICE: £14.99
VERSIONS: A1200
REQUIREMENTS: CD ROM
RELEASE DATE: Out now

GRAPHICS: ●●●○○
Very nice though some of the text is a little hard to see. Wacky and cartoony.

SOUND: ●●●○○
The awful fairground music changes wherever you are in the park. The jingles are not as annoying as you'd imagine.

ADDICTION: ●●●●○
Hard to do well but once you do you'll find it hard to stop yourself. Marvellous.

PLAYABILITY: ●●●○○
A little quirky but you'll get the hang of it.

OVERALL VERDICT:
It's a simple resource management game that's still great fun to play. Well worth it.

90%





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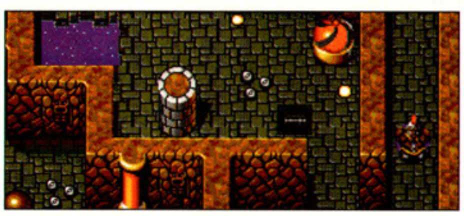


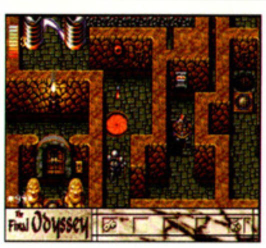
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Final Odyssey









LEVEL ONE

Vulcan's excellent isometric puzzle/adventure game (*AF106* 88%) can be fairly tricky in places, but thanks to this comprehensive guide you'll find that getting through it will be a breeze. Thanks go to Vulcan for providing this solution.

> **"The only way to get the force field gate open is to get the orc, who is in the enclosed room, to step on the pressure-pad..."**



Get the key and you can go back and open the door just out of sight at the bottom left of this shot. Mind the orange blobs as you go around and don't get impatient.

▼ Go under the arch and step twice on the pressure pad to close the pit. Walk right and take the transporter. Step on the pressure pad and return. Now you can go down to where the scroll is and take the transporter that is located there. Move up to step on the pressure pad beside the mirrors and return. You can now walk to the far left of the arena. Step on the pressure pad and then walk through the automatic doors.

▼ Take the transporter at the top left of the arena to collect the money. Go to the next arena by taking the exit at the bottom and press the switch on the right to activate the maze transformation. Now that the wall is gone, go around the bottom and up to the transporter. Hide in the small alcove to avoid the rolling boulder then take the transporter. There are nine transporters so walk carefully between them and take the one in the top right hand corner.

▼ Walk up through the electric arcs and take the key. Take the transporter at the bottom to return to the place with the boulder. Use the switch just near here. Return as you did before.

▼ The guard has now moved from the door so you can get to it and open it with the key. There's also an underground bonus room to the right if you can find it. Take the left exit to the next arena.

▼ There are a number of handprints on the wall. Press the second one from the left and the wall will slide into the ground. Go right and collect the bomb in the chest. Step on the one-way path and collect the key in the middle. Get off the path by heading to the outside and getting off the bottom. Go to the top and destroy the Breather. Go back and take the exit at the top of the arena.

▼ Walk right and collect the other bomb in the chest. Walk up to step on the pressure pad. There is a different pressure pad near the force field. Step on it to temporarily disengage the force field so you can pass through it. Go back and take the left path up to the exit.

▼ Walk to the bottom and destroy the homing domes and the orcs. Remember to pick up any money you find. Go through the automatic doors and slowly move down until you see a boulder come out of the hole at the top. Quickly move back to where you were so the boulder can roll harmlessly past and fall into the hole and fill it so you can walk over it.

▼ Select the nuke as your current weapon and place one just below the cracked wall. The wall will now be destroyed. Destroy the other cracked wall and take the exit.

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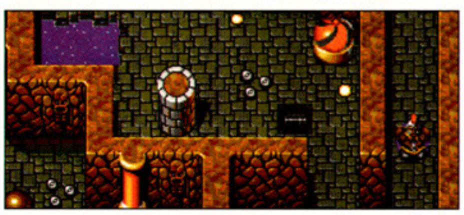


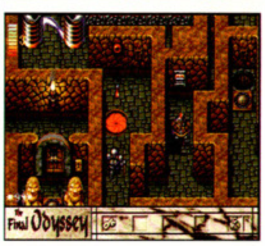
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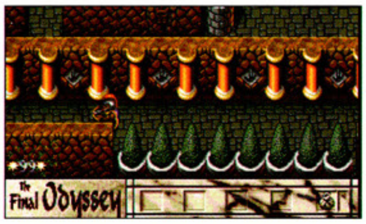
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▼ Take the left transporter and collect the plasma rifle. Return and walk



to the top right of the arena. There are columns of stone there so push the one on the far right and it'll move. Collect the money and take the exit. Don't hesitate here as you'll automatically get transported to a room with three homing domes firing at you. Immediately go left and drink the invincibility potion. Destroy the domes, collect the food and pick up the three keys that are now there.

▼ Open the three doors and collect the Fireblade from the chest and get ready to use it. Make your way through the maze destroying all the creatures and take the right exit.

▼ This arena can get confusing! The room is full of switches and each switch swaps between two different mazes. Your aim is to get to the exit on the right. There are a couple of ways to do this, but here's the best:

▼ Press the first switch at the top. Go right and press the switch near the flame torch. Press the switch just below that one. Walk up and press the switch there. Collect the goodies and press the switch again. Go down and press the bottom switch. Walk down and press the next switch down. Go right and press the switch there. You can now go out the exit.

▼ Go into the centre of the arena and take the transporter. Collect the chain gun and return. You'll need to use it on Kilmando who looks like the other orcs but is much stronger and smarter. Destroy all the orcs.

▼ The exit will not open until Kilmando is dead. Fight him among the stone columns and try to get some distance away before letting loose with the chain gun. Once he's been killed, collect the gold at the top and take the right exit.

▼ There is a series of pressure pads here. Walk down over the two left pressure pads. Once you're on top of the second pressure pad, walk right and step on the pad there. Step on the pressure pad above that and the one on the right.

▼ Walk down through the passage and all the pits should now be closed. There's a handprint on the wall but it won't open until you've destroyed the four mirrors. Open the door and destroy the homing domes. Talk to Karlos and then take the right exit.

▼ Kill all the monsters and talk to Gorland. Don't worry about the combination switches just yet. Take the left transporter and go through the top exit. Use a bomb to destroy the



wall on the left. Now that there's a gap in the wall you can push a stone column through it. The only stone column you can move is the one without a shadow. Push it one down, four right, four down and then left to the now open wall. Push the column into the hole in the ground so you can walk across it and take the left exit.

▼ There are some more columns in this arena. You need to push one onto the transporter to move it, so push the fifth column two up, three left, one down, three right and then down. Go through the automatic doors and destroy the crumbling wall.

▼ Walk carefully past the arrows and take the transporter. Push the stone column that should now be there up to the pressure pad to deactivate the force field. Now go through the force field game to the exit at the top.

▼ This next section is a series of random mazes where you have to find three special keys. The maze will go on forever until the three keys are found and a key can be found on every third maze, so keep walking to the top exit until you get to the third maze where you'll find the first key.

▼ Repeat this process until you've got all three keys and you'll then be able to move onto the next arena.

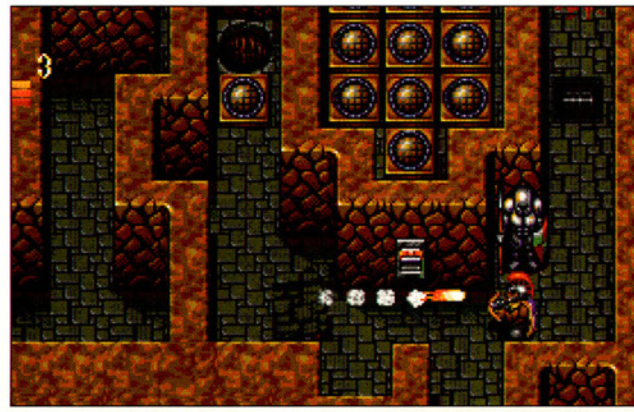
▼ Destroy the two Breathers, get the key and blow up the wall. Push the first stone column you come across onto the transporter at the top. The other columns need to be pushed onto the round buttons on the floor.

▼ Once all the buttons have been covered you'll be able to open the door. Walk right and push the column that was transported up into the hole. Walk up, open the door and then take the right exit.

▼ Move through the maze, killing all the monsters. Use the switch to activate the stairs and go underground. Collect the money, destroy the Breather and return to the surface



Now then, just what the significance of this eye is will be revealed as you play through the guide.



and take the bottom exit. Go right, destroy the Orcs and then go down. Open the automatic doors and wait there for the rolling boulder to come. Don't get out of the way until the very last moment to let the boulder through the door. It will then keep rolling until it reaches the pit. The boulder fills the pit so you can walk across it to the bottom exit.

▼ You're now back to the arena with Gorland the magician in it so take the right exit into the next arena. Once you're here, go right along the bottom and collect all the pick-ups.

▼ Go back up through the arch and



That's the room with all the teleports (top). You want the top right one. Still bobbling around corridors? Read the guide and find the way...

> **"Collect the chain gun and return. You'll need to use it on Kilmando who looks like the other orcs but is much stronger..."**

collect the bomb on the top left of the arena. The only way to get the force field gate to open is to get the orc, who is in the enclosed room, to step on the pressure pad for you.

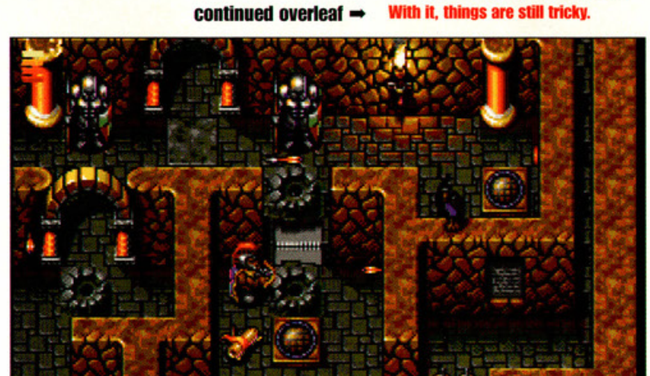
▼ Move up to the hole on the right and the Orc will follow you and step on the pressure pad. Quickly go round and through the now open gate. Open the door with a key and take the exit.

▼ Push the first stone column you come across upward. Move the second column down and to the left and push it in the pit. Walk over to the right of the arena and push the top column down and left on to the

continued overleaf ➡



The very start of the game. Without this handy guide, getting through **Final Odyssey** is a mammoth task. With it, things are still tricky.



Helping Hands

ALADDIN

Dear All,

I have owned Aladdin for the A1200 for ages now and the amount of times I've tried to get out of The Escape is endless. Have you a level select or similar cheat?
Gareth Faulkner, Ashford.

Sure do Gareth. Pause the game and wait until the music's inaudible and enter the following sequence with the joystick: U,D,L,R,F,D,U,R,L,F,D,R,F,R,D and F.

You should hear a Yah! if it's worked and you can now use the following keys during play:

- **F10** Completes the level and goes to the bonus game.
- **1-9** Skips to that level (no bonus game).
- **Z** Moves Aladdin anywhere using the joystick.
- **+** Speeds up movement when using Z.
- **–** Slows down movement when using Z.



Cheat your way through Aladdin with these handy hints and cheats.

TRAPS 'N' TREASURES

Dear Amiga Format,

I have been playing the old platform game Traps 'n' Treasures and I am stuck on the second level. Any help, tips or cheats would be extremely helpful.
P. Staniforth, Barnsley.

Glad to be of help, P. On the first title screen, the one before you are asked to insert disk B, type SCAMAGIC. The screen should flash. During play, press P for an extra life. Or, during play, type PKLABAUTERMANNP. The screen should flash again and you'll also have an extra life. Just keep typing it when you need another life. You can only have a maximum of nine lives though.

VALHALLA II – BEFORE THE WAR

Dear Helping Hands,

I am stuck on level 2 of Valhalla II. I have got two chess pieces but don't know what to do with them. Please help.
M. Nortan, Liverpool.

Easy M. Go to the chess board room near the torture chamber and position your pieces to checkmate the King. The Rook goes on the square by the door, on the same line of tiles as the King, and the Bishop goes on the square near the bottom of your screen, with the King in a diagonal line. Make sure your Bishop's not on a diagonal with any of the other Bishops. When you've done this, the King disappears and you're left with a cigar, another sapphire and a teleport square.



Play a good game of chess in Valhalla II and you'll get… a cigar? Hmm.

← pressure pad which will open the force field gate. Push the same column down into the pit in front of the gate and walk up through the gate and destroy the Breather.

▼ Go down and left to where the two stone columns are together. Push the left column down one. Go back around and push the same column one left, one up, three left and into the pit. Push the other two columns up into the other pits.

▼ Go left to the last stone column. Push it one down, two left, three down, four right, two up, right and then go around and push it into the last pit. Take the exit. Get through the random hedge maze by destroying all the guards and taking the exit. Make your way to the switch and activate it.

▼ The arena will now turn dark. Collect all of the money, destroy the orcs and then press the switch again. Take the top left exit and make your way back to the arena where Gorland is located.

▼ Go to the combination switches and make them as follows: down, up, down, down, up, up. Collect the money. You should now have a full money bag. Give the money to Gorland who will give you an orb in exchange. If there is any money left at the top, return and collect it because your money bag will now be empty again. Take the bottom exit.

▼ Make your way through the maze destroying the two Breathers. Free the girl by inserting the orb into the hole next to the cage. The girl should now be following you. Take the exit to the right. Take the transporter. There are three switches here. Press the first two switches and a key appears which you should take.

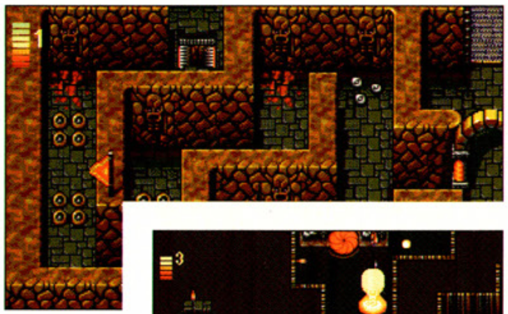
▼ Take the transporter back and you'll find that you can now open the door with the key. Find the mirror, break it and then go back and open the wall with the handprint. Take the transporter to the exit.

▼ Destroy the Breather, collect all the chest items and make your way to the exit below. This is the arena with a tunnel in it that allows the girl to escape. Take the girl into the tunnel and walk down it until she disappears and an exit will open up at the top left of the arena. You have arrived at the heroes graveyard.

▼ Collect the money and leave via the left exit. Destroy the homing domes and push the stone column below the flame torch up against the flame torch. You can now move right and there are three columns there.

▼ There's a switch behind the middle one. Push the columns on either side up so you can push the middle one to the side and reveal a switch. Push the switch.

▼ Once the maze has transformed, go to the spinning sword. This is the real Sword of Zendren, so collect it.



▼ Press the switch on the left side and then leave by the left exit. Destroy all the guards in the random maze and go to the exit. Kill all of the monsters, collect all the money and step on the pressure pad at the bottom and leave via the right exit.

▼ This maze has invisible walls. The idea is to get through the maze to the two pressure pads in order to close the pits. Once you've done this, take the right exit. Use the bomb to destroy the damaged wall and destroy the dome with the spinning balls. This should leave a key behind.

▼ In order to avoid the bouncing balls, leave the arena and then immediately come back and the balls will be gone. Open the door and collect the three bombs there. Destroy the other walls and leave by the exit at the bottom. Go right and up to the next arena.

▼ Collect all the money at the top and press the switch to reveal more money. Return to the invisible walls arena and this time take the top exit. Destroy the Breather and the three damaged walls. Activate the stairs and go underground.

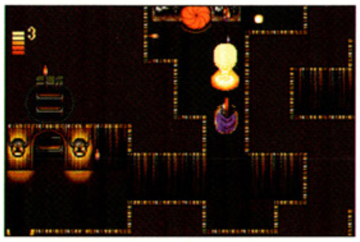
▼ Talk to Jobe the blacksmith who'll give you a pair of tongs. Return to the surface and take the top exit. Give Karlos the Sword of Zendren and he'll now be free. Go back to the invisible wall arena and take the left exit. You are now clear to take the top exit in the next arena.

▼ Collect the key and all the money. Open the door at the top left and take the transporter to collect the bonus. Return, and leave by the left exit. Destroy the four Breathers and take the left exit. Destroy the next Breather and collect the key after destroying the spinning balls.

▼ Go back and take the right exit. You can now open the door with the key to go underground. Destroy the Breather there, go back to the surface and remove the fireball. The field should go down then. You should now have a full money bag so travel back to Gorland and swap the money for the second orb.

▼ Go to where the second girl is located (one arena left and one arena down), free her and take the right exit. You should then take the girl down the tunnel and return to the arena with the fireball and the field (that are no longer there) and leave via the bottom exit.

▼ Push the stone column on the far right of the arena down four places, push the column that is now left of you across left for two places and collect the key that is found there.



The underground bonus room. Finding it should be easy now, but remember that it's still dangerous.

▼ Walk up through the door and then down through the automatic doors. Kill the Keymaster and take the left exit. Kill all of the monsters and then make your way down to the bottom left and walk through the sliding doors.

▼ Walk back again to re-open the doors to let the rolling boulder through so it can fall into the pit. Take the exit below. Press the switch on the left side of the tablet and destroy the homing domes. Each will leave behind a key that you should collect. Open all the doors, press the switch and take the right exit.

▼ Make your way to the bottom of the arena and the level exit should be at the bottom. Now all you have to do is go through it in order to complete level one!

That should keep you busy for a while so we'll be printing the rest of the solution to this excellent game in next month's *Amiga Format*.

Miss it and you'll, er, probably be really stuck on *Final Odyssey*!

SEND US YOUR TIPS!



If you've got some hints, cheats, tips or general good advice on any Amiga games – especially some of the newer ones like Uropa2, Bograts or whatever, then don't keep 'em to yourself – send 'em in so we can pass 'em onto other gamers who might be having more problems than yourself.

Also, if you've got a query about a game (and, no, I don't really mind people asking about The Secret of Monkey Island), then drop us a line and we might be able to answer it in Helping Hands.

HELPING HANDS • Amiga Format
30 Monmouth Street • Bath • BA1 2BW

After all the problems and setbacks, James Ceraldi looks at what actually went right.

H-Bomb

WORK IN PROGRESS

As you know from the previous report, we have had our problems! However, we also made some great decisions which I hope many Amiga users will appreciate. We chose RTG with CyberGraphX (and later P96) right from the start, and we were early adopters of AHI. I'm happy with the choices we made and, despite the learning curve involved, I know it was the right way to create new game software.

We added in support for third party software and, in order of personal preference, here are the other features I am proud of: multi-tasking, system friendly, multi-player, 8-bit to 24-bit graphics, TCPIP, and a decent high-colour, low CPU intensive animation system. Not a bad list for a first release!

So what do these features mean to you? First, if you've invested money into your Amiga and you have a video card, you actually get to use it. No AGA here folks, it's time to upgrade! Same goes for sound cards – if you've got one, you can use it.

The game was coded for '030 and higher so you'd better have an accelerator and at least 4Mb of fast RAM free. If you have, you'll get 256, 65,000+, or 16 million colours running at 24 frames per second.

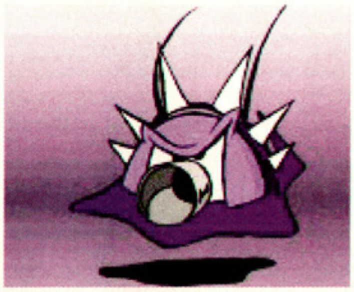
If you want to connect over a network or the Internet, you can as long as you have an AmiTCPIP compatible stack such as Miami. Of course, you're going to need a very fast connection for it to be playable and, for most people, it's the slowness of their Internet provider's servers and the number of jumps the data takes from your computer to your friends that is the bottleneck.

For the lucky few, Internet play is a reality and with improvements to the net, more people will be able to take advantage of online play.

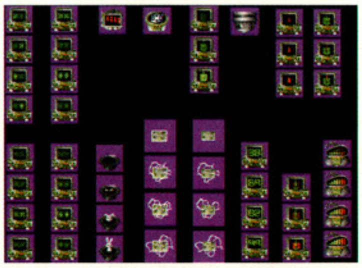
However, the slowness of the Internet does not stop people connecting directly with a modem to modem call, nor does it stop them from the best method of all, gathering three other friends around the Amiga for a slug fest!

The features mean you get a proven and simple game design for multiple players of all ages that has great gameplay, graphics, sound and music delivered to you, playable directly from CD-ROM. The music is by various talented Amiga musicians and the artwork is by great Amiga artists including Eric Schwartz. It is important to point out that the game is design to be played against others. You need two or more players to really enjoy *H-Bomb,* and it is at its best with three or four.

This is one game style that does not get boring quickly. It has replay value that lasts a long time – perhaps even longer than the friendships you have with the other players...



Choose your tank...



A work in progress, showing some of the graphics and animations to be added.

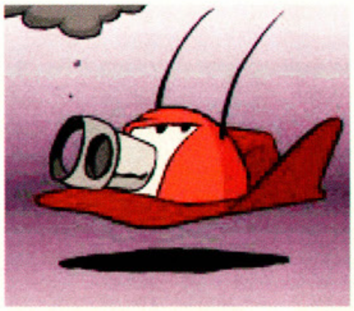
> **"The features mean you get a proven and simple game design for multiple players of all ages..."**

H-Bomb will have all these features and will come in professional packaging, PlayStation-style, with full-colour jacket manual and inserts. Of course, our price of $34 US is a lot cheaper than most PlayStation titles. We are currently setting up distribution for the UK, Germany and the other major Amiga markets. We will also have direct orders available from our website so customers having problems finding our products will have easy access.

So when will *H-Bomb* be ready? Well, the coding is done, the sound effects and most of the graphics are done, but we still need to complete the game map graphics. We have the ideas and designs but we need help finishing the background maps. All those great Amiga and Mac graphic artists out there, contact us – we could use your help so we can bring this product to the Amiga world!

It has been my pleasure telling you about Aurora Works and our efforts to support you, the Amiga user. Check out *AF*'s cover CDs in the coming issues where we will be having example test projects from way back in August 1996 to the present so you can see our progress.

Try not to laugh too hard but, as you will see, we have come a very long way! Cheers.



... and then get ready to blow your friends up, either over a network or on the same Amiga.



H-Bomb promises some great multi-player tank blasting action over some superb backdrops.

More details...

Aurora W·O·R·K·S

Aurora Works Inc. are taking pre-orders for H-Bomb at US$34 plus shipping, but have no UK distribution date set as yet.

If you want to get in contact with Aurora Works, you can visit their website at: http://www.auroraworks.com or write to them at: Aurora Works Inc. 358-114 Queen Mary Road Kingston, Ontario K7M 7E8 Canada.

For no apparent reason, **Amiga Format**'s Andy Smith has got all sentimental and gooey over this part of the magazine. He keeps wandering around clutching disks and singing "They're coming home, they're coming home, the games are coming home…". He's referring to what are, of course, the…

Reader Games

ON THIS MONTH'S CD

AFCD25:-ReaderStuff-/-ReaderGames-

And believe me they are. Your *Quakes* and *Mysts* of this world are all well and good when it comes to livening up the Amiga gaming world but here I'm concerned with the grass roots of gaming. To use a football analogy (well, the World Cup's coming up, innit), this is the programming equivalent of kids running around using jumpers for goalposts.

Forget your Liverpools and Arsenals of the Amiga gaming world and think about the back-bedroom coders who've got limited or no resources but want to make games.

That's where this part of the magazine comes in. With Reader Games I'm not concerned with how polished the graphics are. I don't care whether there's stereo sound. I don't even mind if the game crashes on me.

All I want to see is the kernel of a good gaming idea. Then I can offer my help and advice on areas that could benefit from some improvement.

Think of it as a free consultancy service – you code a game and then get expert advice on how to improve it. Like telling you your control's great but you need to know where the goal is before you start shooting or you're going to keep going wide.

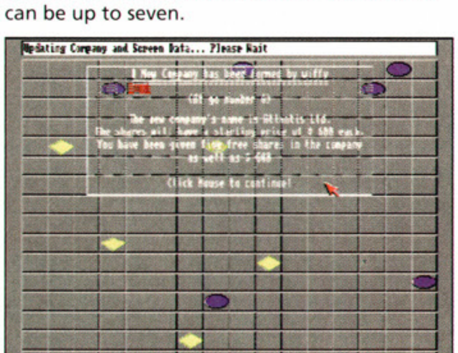
And, just to keep on the footy thing a bit longer, if you're the month's Star Player then we'll even pay you! Oh yes. *Amiga Format*'s generosity stretches to giving one lucky reader a prize of £50 for coding the month's best game. It may not be a fortune, but at least it will go halfway towards a new kit…

Gather your thoughts, exercise your fingers and with some luck and a fair wind, the young hopefuls seen here could be turing out for England in a couple of year's time. Erm, if you know what I'm trying to say. Anyway, enough of this. On with this month's premier selection…

GAME: Space Monopoly AUTHOR: David Vivash LANGUAGE: Amos Pro

£50 AF Winner!

Despite the rather misleading name, this game has nothing to do with rolling dice and buying various properties on the moon. It is a money making game, but here you're buying shares in companies that you're then trying to expand quicker than the other players, of which there can be up to seven.



It's terribly simple really. You're presented with a grid and a few randomly placed flashing squares and a couple of circles. Companies are created by clicking on a flashing square that's next to a circle, or by clicking on a square this turn. It will turn into a diamond which then gives you the chance to visit the stock market and buy any shares in existing companies, and then clicking on a flashing square that's previously been turned into a diamond. Look, it sounds more complicated than it is.

Then players simply take it in turns to click on the flashing squares and attempt to expand their companies (share values up) and make more money than everyone else.

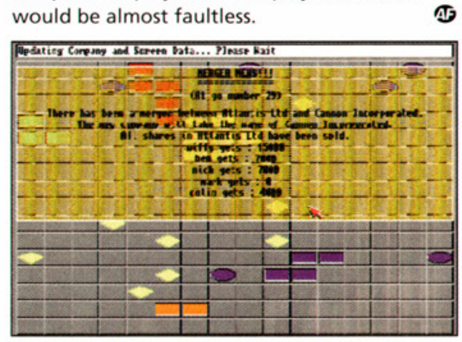
You don't need to own a company to buy shares in it, but you do need to keep expanding the various companies you own shares in, so you'll keep making enough money to buy more shares. And so the game continues until there are no more squares left. The person with the most money is the winner.



A deceptively simple-looking game that will keep you playing for hours.

This is a quality game. It's beautifully simple and easy to play and yet so addictive because it's so competitive.

The only thing this game lacks is a decent one-player mode. If young David could get the computer to play the other players then this would be almost faultless.



VERDICT:

A splendidly simple game that's tremendous fun to play. A good one-player mode would have made it even better. Let's hope David's working on that already…

GAME: Roulette '98 AUTHOR: Ad de Roo LANGUAGE: Amos Pro



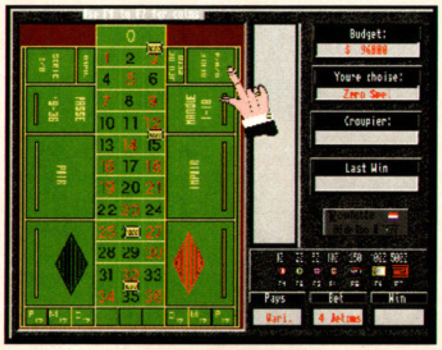
This has come at just the right time for me as I'm off to Las Vegas in a couple of weeks to gamble my hard-earned dosh away (very self-indulgent to tell you all that, but if you were going then you'd do the same) and I don't have a clue what Roulette's all about.

And I still don't. *Roulette '98* doesn't come with too many instructions. There's an annotated diagram with the documents but it isn't very helpful really. I ended up just sticking down random bets, either on numbers or on just black or red. The sound effects didn't seem to work too well either.

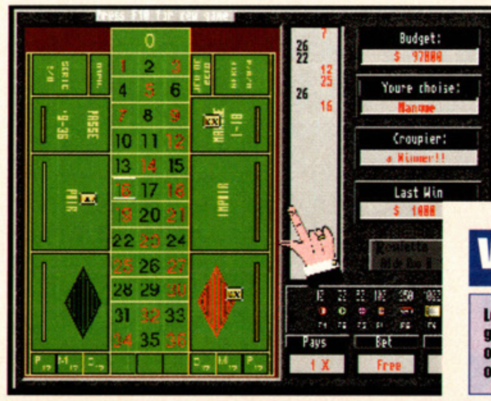
Even if I did understand the rules I would still have felt let down because you don't actually get to see the spinny ball going round that wooden hub-cap thing. Sure, all you need to know is the number that came up, but then again why bother doing the whole table and stuff if you're not going to do the spinny ball thing?

I'm not going to be too harsh because this does show potential. The intro logos and things are very nice, but it just seems to be half done.

Proper docs, maybe even a tutorial, would be enormously helpful, as would the inclusion of the spinny ball. Gambling games are ultimately pointless anyway because you can't actually win or lose any real money, but is there any chance of the finished copy Ad?



So what am I doing here then? I reckon the trick is to just chuck loads of money on the table and act smugly if you win (which you won't).



Another win through luck and not judgement. Still, a win's a win.

VERDICT:

Looks like it could be good fun (for a computer gambling game) but it's missing the tension-builder in the shape of the spinny ball thing. And it lacks a simple explanation of how you're supposed to play Roulette.

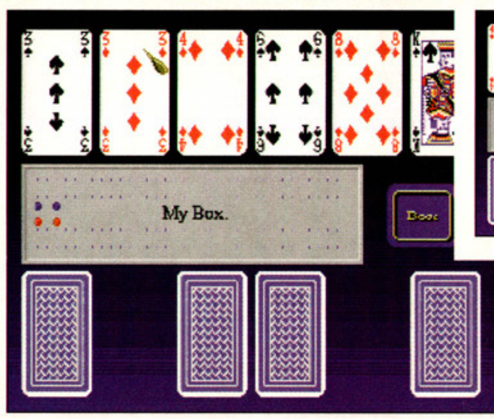
NAME: Crib AUTHOR: Peter Dower LANGUAGE: Amos



I've had to cheat a bit on this one I'm afraid. I can't play *Cribbage* so I had to rope Nick in to play the thing for me. Here's what he thinks: "It's very good. It plays a good game and it's well presented as well because the way the pegs are animated is very nice.

"Just about the only thing that could possibly be improved is if the author had got the cards to flash when they're adding up so you know how you've achieved the score you have. But anyway, it's still very good."

So there you go. Apparently it's a very good *Cribbage* game.



You can't see it here but the animation on the pegs is rather lovely – it's only a small detail but it adds a lot to this fine **Cribbage** game.



Nick went on to lose this game. He then sulked for the rest of the afternoon.

VERDICT:

Nick thinks it's very good. I have no opinion apart from agreeing that yes, the moving pegs are very nice indeed. I'm not too sure about the title music though...

GAME: Mayhem AUTHOR: Vincent Hassay LANGUAGE: Amos Pro







There's just too much happening here and the jerky graphics are a let down as well. More work is needed, I'm afraid.

It's been a long time since we had a *Defender* clone at Reader Games but the drought is now over. Vincent's written this game for an A1200 (he hasn't tried it on anything else but reckons it should run on others) and reckons it runs pretty smoothly on an '030 accelerated A1200. It may well do, Vincent, but I can assure you it runs far too fast on an '060 accelerated A1200 and it jerks painfully on an unaccelerated A1200.

This isn't the finest *Defender* clone we've ever seen. It's terribly glitchy and becomes horribly slow on an unaccelerated machine when there are several baddies on screen at once. I've a feeling that in order to create excitement Vincent's gone over the top on the number and variety of aliens. Sure, it's fun to shoot loads of aliens, but this ends up being a case of just moving left and right a tiny bit and blasting away with your gun.

There are so many aliens that you'll end up killing most of 'em whether you're aiming or not. This not only makes the scanner at the top of the screen redundant, it takes away a lot of the enjoyment of the game. It's not awful, but if we're talking polish then this game needs an industrial sander on it.

A fine example of why you shouldn't rely on accelerator cards to make a game playable. Don't go giving up though Vincent. All you need to do is take out your accelerator, rummage through your code and find out how you can get things running a bit smoother and faster.

VERDICT:

Fine on an accelerated machine (though not the most thrilling game in the world) but pretty awful on an unaccelerated machine where it becomes less mayhem, more maybe.

GAME: AmiCyberPet AUTHOR: Robert Hutchinson LANGUAGE: Blitz Basic 2

Robert writes "I know you have a lot of CyberPet programs and you are probably getting very sick of seeing them, but unlike all the others, this one works". And, by jove, he's right on both counts!

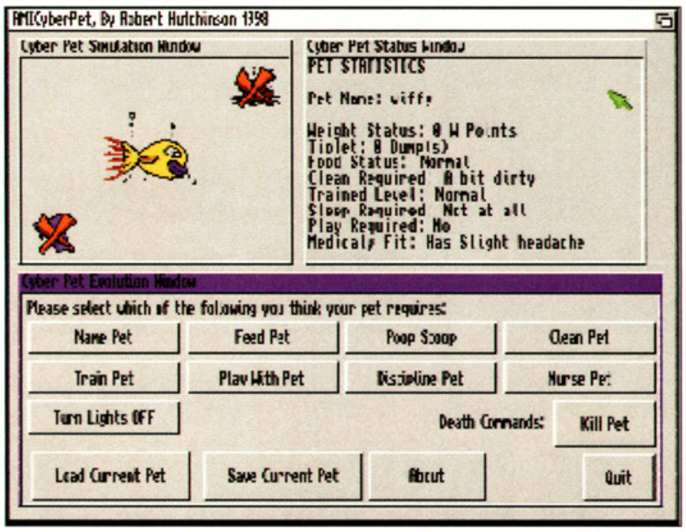
I am indeed sick of CyberPet programs, especially because all the ones I've seen so far have been just awful, and yes, this one does indeed work. Robert's recognised the fact that most Tamagotchi clones are just plain boring so he's included three speeds of growth for your pet, and when you're on 'fast' you'll find that the thing needs constant attention – and I really mean constant.

What Robert hasn't bothered to waste his time on are silly games and things to do with your pet – when you're playing with it a simple message informs you so. Normally this would make the thing terribly dull but, because there's almost always something to be done to your pet, it works just fine.

The screen's been well laid out so that you can access all the menus very easily and there's even a facility to load and save your pets, which is very nice.

But is it much fun? Weeeellll, no. Not really. Even though you can choose what kind of pet you want (maggot and worm amongst others) it's still only a laugh for a couple of minutes.

I am very grateful to Robert for sending this in though. I knew someone would come up with a Tamagotchi clone that actually worked. But please now, everyone, don't bother sending in any more, eh? Cheers.





The funniest part of the game – if your fish is cheesing you off, give it a bit of a slap. Oh what larks, Pip old chum.



VERDICT:

Hurrah! A Tamagotchi clone that works properly! The novelty's likely to wear off in about half an hour but at least now everyone can have their own little pet. Aaah. And really folks, NO MORE.

GAME: Pic Puzzle AUTHOR: Ermanno Manzoni LANGUAGE: Amos

Italian Ermanno is no stranger to Reader Games and seems to specialise in puzzle games. Last month we had a rather good version of the old boardgame *Master Mind* and now we've got this.

It's a bit like those little squares you get where you have to move one piece at a time to get a picture and it's a bit like a jigsaw. It's like those squares because you get a jumbled picture and by clicking on a pair of squares you get to swap their positions. And it's like a jigsaw because, well, you've got a jumbled up picture and have to sort it out.

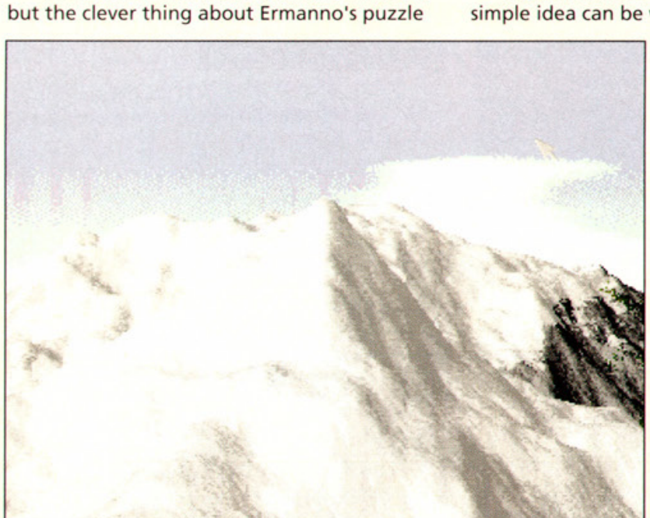
Now that all sounds very simple and easy but the clever thing about Ermanno's puzzle is that he's picked pictures that are very difficult to piece together. Even on the easy level, almost every piece can go with almost every other piece.

It's only when you notice a little tiny corner of the picture looking slightly out of place that you realise you've been trying to fit the wrong pieces together.

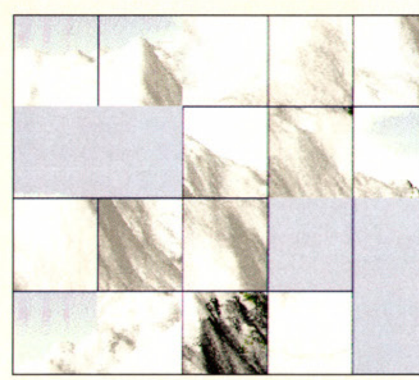
Stick the game on Very Hard and you're going to be struggling to make the picture up. Even when you cheat and look at the lid, well, press the right mouse button to reveal what the picture should be.

Again, another fine example of how a simple idea can be worked into something that is enjoyable and entertaining (though not strictly a game). This will keep you going for hours and I don't think there's much that Ermanno needs to do to the program to improve it.

You can even import your own pictures if you so desire. This really is fabulous stuff that only just misses out on this month's prize because it's not an original idea like *Space Monopoly*.



Here's what a completed picture should look like. If you can do this in the very hard mode then you're more patient than I am.





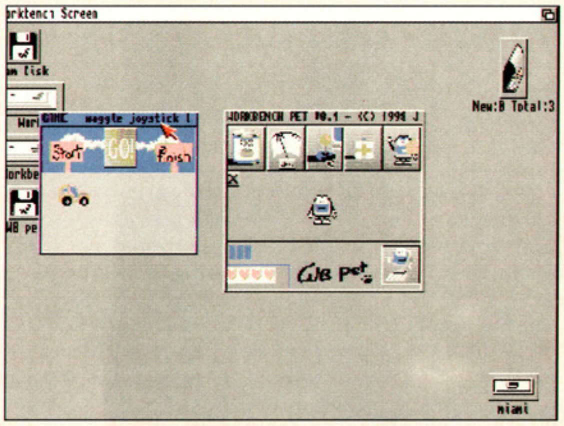
VERDICT:

A fine jigsaw puzzle game that can be as easy or as hard as you like. Polished and well presented, this should keep you going for hours at a time.

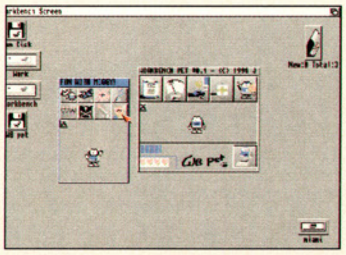
GAME: Workbench Pet AUTHOR: James Chapman LANGUAGE: Blitz Basic2

Aaargh! I told you it was going to happen didn't I? Mention that I'd like to play with a Tamagotchi clone just once and thousands of 'em flood in. Although I've already included one of them in this month's Reader Games, I can't let this one pass by before refusing to cover any more.

This is far and away the most entertaining Tamagotchi clone to have arrived and for one simple and very silly reason. You can play with your pet (called Miggy) and make it impersonate Keith from the Prodigy. That's the sole reason this is the funniest and most entertaining of all the Tamagotchi clones I've seen.



James has spent a considerable amount of time polishing this. All the usual stuff is there – feed the pet, give it medicine, play with it and so on and so forth – and your pet even gets to evolve if you've managed to keep it in good physical and mental health.



There he goes! Firestartin' all over the shop. Simple things please simple minds and this one made us howl.

Playing with the thing is far and away the best fun.



And now he's a pirate. This does nothing to boost your pet's happiness but it's fun for the human owner.

I thought it was a laugh when I got it to Riverdance (although the music didn't seem to be working quite properly) but once he launched into Firestarter, well, that was it – my day was made.

It's simple, it's pointless, it's the last Tamagotchi clone you're going to see in Reader Games and it's great.

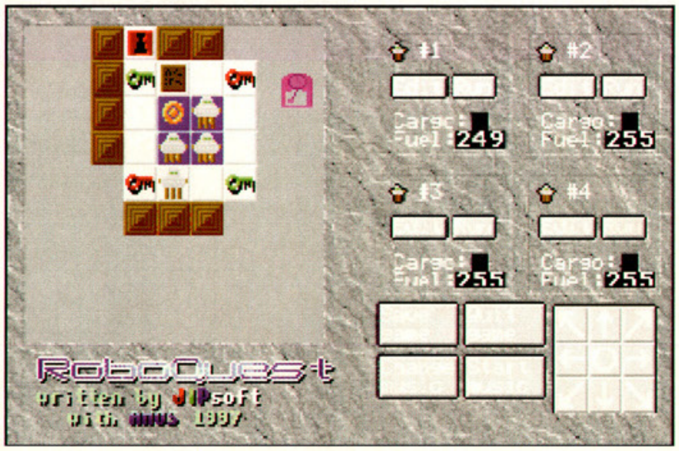
VERDICT:

Simply the best example of what is now an extinct genre in Reader Games. Fun only because you can watch your pet Firestartin'. And seriously folks, don't waste your postage sending in any more. They'll only go in the bin. No, really.

GAME: RoboQuest AUTHOR: Joona Palaste LANGUAGE: Amos Pro

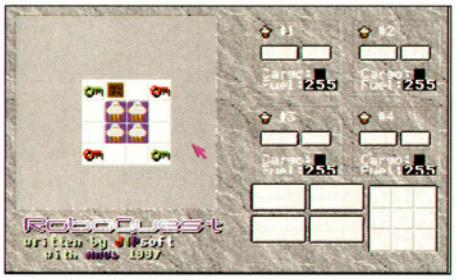
This really is a very bizarre game. I'm not even sure it's actually a game as it's just a programming exercise really. And I don't mean just a simple programming exercise either (unless you're already a programmer).

The, ahem, 'game' bit is where you have to direct four robots around a map, collecting diamonds and carrying them to where they can be deposited safely.



Doesn't sound too bad, does it? Er, except when you expect to be using commands such as DEC <variable> which erm, 'Decrements the contents of the numeric variable specified by 1. It is impossible to decrement string variables or system variables.' Precisely. OK, so it's not impossible to deal with but blimey! This is supposed to be a fun game!

Will it help you to learn to program? Probably not, though it will give you an insight. And will you have fun while you're tinkering around with it? Again, probably not. Games where you have to issue orders to a robot and then watch it carry out your instructions can be fun if they're limited to 'up, down, left, pick up, right, drop.' But when you're having to issue a complex set of instructions within a pseudo programming tool then it just becomes a little bit too much. Sorry Joona, this is not the best we've seen from you.





No. Really. You're supposed to type in lines of code and then run 'em to see what your robot does. This is harder work than any maths lesson!

VERDICT:

Well, to describe it as a game is stretching it a bit. This is programming by numbers and as such it's just not much fun I'm afraid. Only for the terminally curious.

READER WARRANT

When you're sending in your submissions make sure you also give us:
1. An address where you can be contacted.
2. Details of the language used to create the game.
3. A recent photo of yourself.
The address to send your stuff into is:
Reader Games • Amiga Format
30 Monmouth St. • Bath • BA1 2BW
Everything included on the *AFCD* must have a reader warrant with it. Just cut it out off this page, sign it and send it in to us with your game and a recent photograph of yourself. A last reminder: if you don't include this warrant we simply won't be able to put your game on the CD – that means you won't be able to have it judged by other readers.

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PD Select

Dave Cusick takes his monthly look at what's hot and what's not in the world of PD and Shareware.

DRAW SELECTOR V3.5

By:	Bernard Cain
Ware:	Public Domain
PD Library:	Classic Amiga Software
No of disks:	One
Price:	£1 + 75p P&P

Saturday afternoons are great for football fans like me. Admittedly, they're not as great as they once were now that so many games have been shuffled into midweek slots for the benefit of Sky television, but they're still great. Even if you can't get to a game, you can tune into a live match commentary on the radio as you wash the car, queue in a traffic jam on the way to the local shopping centre or even sit cobbling together another PD column at your computer.

At four-fifty, if you aren't already listening to Radio 5 you can flick across from the local station to hear James Alexander Gordon read the classified results in his own inimitable style. Then you've got the local football phone-in, followed by Mellor's soapbox slot, 606, to take you up to around 8pm, whereupon you can set the video for *Match of the Day* and amble down the local public house to consume copious quantities of alcohol.

Somewhere in between the classifieds and the famous Sports Report theme tune at 5pm, folk up and down the country will either be leaping several feet into the air or cursing Walsall for conceding a last minute match-winner at Peterborough. These folk are Pools players (although some of them might be fans of the Posh).

I don't play the Pools myself, but I know plenty of people who do, and they all spend a lot of time mulling over the relative form and preferred conditions of different teams, just as racing fans do with horses. This requires a great deal of knowledge, and it's probably true to say that there are only a handful of people who really know a great deal about every team in the country, particularly those in the lower reaches of the Nationwide League (and most of the folk who do know such things are probably in football management).

So how can you increase your chances of winning the Pools? Bernard Cain thinks it's worth employing a similar approach to that taken by most Lottery prediction programs. These tend to suggest balls which are due to be selected soon, assuming that over a reasonable period of time all the balls will come up the same number of times.

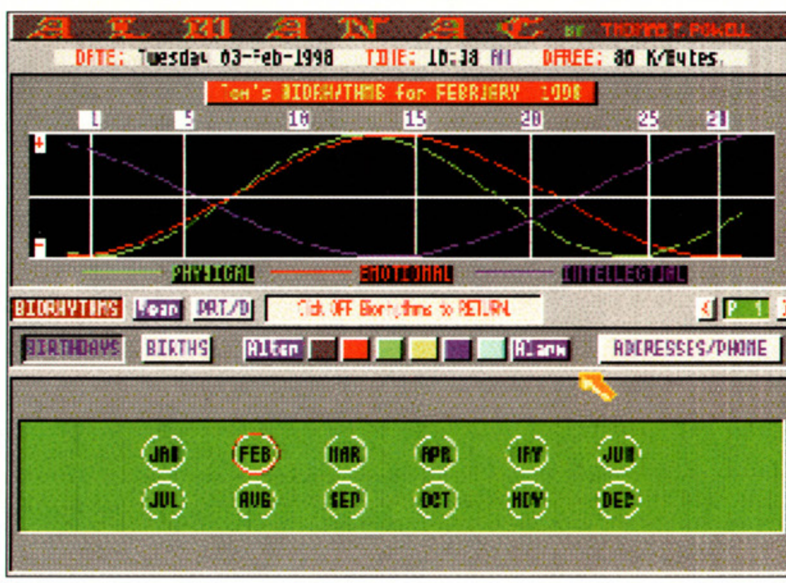
DrawSelector suggests the numbers of matches which are likely to be draws, assuming that over a reasonable period of time all the match numbers will be draws on the same amount of occasions.

The author acknowledges that this doesn't seem a particularly scientific system, but he reckons it actually works.

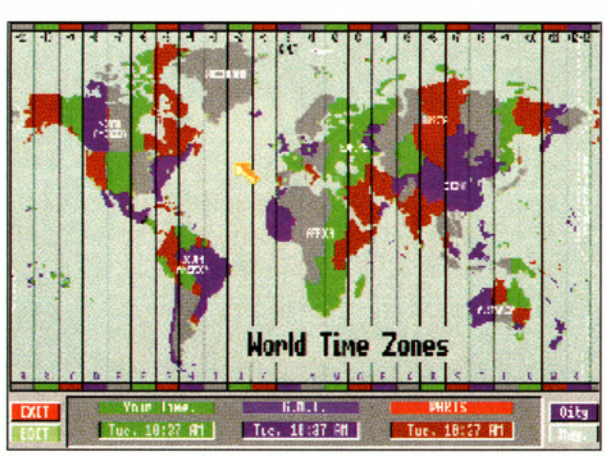
Although *DrawSelector* doesn't exactly boast the most sophisticated interface and range of features ever seen in a prediction program, it is very easy to use.

The disk also contains a few related utilities which allow you to keep track of your performance, save up to 52 sets of Saturday Pools results, and so on.

If you haven't been faring too well on the Pools of late, it might be a good idea for you to take a look at this.



Not only does *Almanac* tell you when all your friends' birthdays fall, it gives you their biorhythms, too (right).



One of the very useful tools which *Almanac* offers is this World Time Zone map which lets you see what time it is anywhere in the world.

ALMANAC F3

By:	Thomas F Powell
Ware:	Gift
PD Library:	Classic Amiga Software
No of disks:	One
Price:	£1 + 75p P&P

Computerised time management programs have always been popular. When my family bought our first proper computer in the early eighties, the bundle of software which accompanied it included a program called *Desk Diary*.

Although it obviously wasn't quite as sophisticated as modern computerised diaries, in terms of basic functions it offered everything one might expect – a day-to-day events diary, an address book,

PD selection of the month

Doom 1.10

By: .... Id games
Ware: .... Free
PD Library: .... Various

On Friday 10th December 1993 you'd have been extremely lucky to log into the University of Wisconsin's FTP server. Every connection to the machine was in use. A chap from id Software had to kick a couple of unfortunate individuals off so that he could actually upload the program all these people had come to the site to obtain. The program was, of course, the first-person 3D blast-fest *Doom*, and its release must surely rank as one of the most important events in recent computing history.

Doom was more atmospheric than anything before it and playing it could be a genuinely frightening experience at times. *Doom* also had more spectacular graphics than most games before it and the gruesome monsters you faced died in a gory and spectacular fashion.

Doom even had a networking feature so that up to four players could chase each other around its labyrinthine levels, each of them armed to the hilt with a fearsome array of weaponry. Unfortunately, *Doom* was a PC game.

A Macintosh version subsequently appeared, but id Software had no plans to port *Doom* (or any of its successors like *Doom II*, *Hexen* and *Quake*) to other platforms, including the Amiga. Although more than four years have now passed since *Doom* shook the gaming world, its brilliance remains undiminished, and the announcement recently that id Software were to release the source code for the Linux version of *Doom 1.10* late last year understandably generated something of a clamour amongst the online Amiga community. With ClickBOOM having acquired a license to produce *AmigaQuake*, and with their conversion of *Myst* already available, it's terrific news that at last some of the most important games of the nineties are appearing on the Amiga.







Big guns and shooting and death and blood and monsters and gore and... oh, you all know what *Doom*'s about.

Already a whole host of Amiga *Doom* ports have appeared and a quick look at the AmjDoom download page at http://surf.to/adoom/ reveals no fewer than five under development.

Some are better than others, and some are more suited to certain systems than others. In general, you're going to need at least an '030/50 processor, 8Mb RAM and either AGA or a graphics card to even get these ports running.

If your machine's up to it, however, you could be in for a real treat. Even several years after its original release, *Doom* is a blast-fest par excellence, which seems as fresh and enjoyable today as it was when it first saw the light of day on the PC. Because the various ports are being updated every week or two, the chances are that by the time you read this the state of play may have changed slightly.

However, the port you go for could well be influenced by your hardware. *ADoom* seems to be the best, with mouse and joystick control options, music and fully functional networking so you can play over the Internet. *DoomAttack* may be a better bet for '030/50 users as it's the only port which will allow full-screen play on their machines. If you've only got 6Mb then *AmiDoom* is for you. If you don't have a Net connection, you can get one from Norwich PD.

PSIDoom and *Amiga Doom* are the other two contenders. Whichever port you opt for, make sure that you get yourself a copy of *Doom*. It might be one of the most hyped games of all time, but it's still a game that everyone should own.



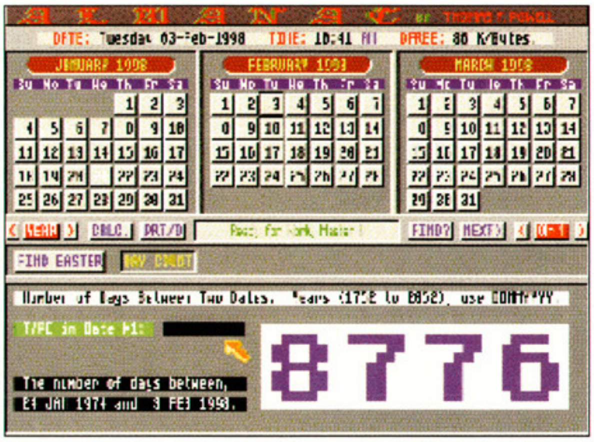


Doom played on a very small screen. But at least it's working, and on an Amiga too. It's still probably worth upgrading your hardware just so you can play this in all its glory, though.

a calculator and so on. *Almanac* offers these standard functions and a great deal more besides. The main screen offers easy one-click access to the notes you've made for any day within the current quarter, and with a couple more clicks you can take a look at other quarters in the current year. There's an alarm function and you can also quickly take a look at your address book or telephone directory and even check when your friends' and relatives' birthdays fall. A nice touch here is that from the birthday screen you can view biorhythm charts, showing when someone's physical, emotional and intellectual capacities are at their peaks.

By hitting F2 you can bring up further useful functions. There's a World

Continued overleaf ➡



The Day Count feature can tell you how long you've been alive, how long until your next deadline and other interesting stuff.

Time Zone screen, with cities around the planet highlighted – click on them and the local time is displayed.

You can toggle the background music on and off, selecting from one of five different tunes. There's also a unit conversion feature so measurements of length and temperature can be quickly converted. Hitting F3 brings up one last set of functions. Find Easter allows you to key in a year and check when Easter Sunday falls, and also when other important dates in the Christian church calendar fall. Finally, Day Count can tell you how many days there are between two specified dates.

Using this novel feature, I discovered that I've been alive for a paltry 8,000-odd days, and that I wrote my first piece for an Amiga magazine a shocking 2,091 days ago. *Almanac* may not be the most advanced program of its kind I've ever seen, but it certainly offers many more interesting and genuinely useful features than most.

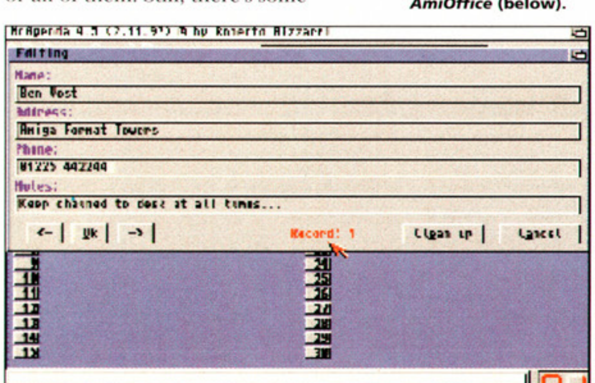
A polished product with an easy-to-use interface, it could help even the most disorganised Amiga user keep track of his or her life.

AMIOFFICE

By: .... Various
Ware: .... Free
PD Library: ... Classic Amiga Software
No of disks: .... One
Price: .... £1 + 75p P&P

AmiOffice is a rather grand title for this curious assortment of programs as you'd be hard pushed to run an office with any or all of them. Still, there's some interesting stuff here. Daniel Avella's *AmigaTEd* is a simple but usable ASCII text editor. It could benefit from some slightly clearer function icons, but it's fast and effective and it's perfectly adequate for editing script files and even composing short documents – just don't try writing your next novel with it.

Keep track of addresses with this useful phonebook program, found in *AmiOffice* (below).



McAgenda by Roberto Bizzarri is a straightforward phonebook application. Again, don't expect any fancy features, but if you're after a small program to perform a basic task then this could be for you. Rafal Kaczmarczyk's *Xbase* is – you've guessed it – "a quick and easy to use database", but it's my favourite of the five programs on the disk.

It features an uncluttered Intuition interface, it's incredibly pleasant to work with and it has a certain indefinable something about it which lends it the polished feel that both *McAgenda* and *AmigaTEd*, for me at least, seem to lack.

Gareth Murfin's *SSClock* is an interesting novelty. A Sampled Speaking Clock, this is one of those programs which at first seems like such a good idea, although whether you'll still think so having had the time read out by Gareth in his recognisably Geordie accent for a week or so is another matter. Oh, and watch out for the installer which seemed to like crashing my machine.

The final part of *AmiOffice* is an absolute office essential if ever I saw one. I can't believe that any business in the world could function without a *Star Trek – The Next Generation* font. It's easily the most useful inclusion on the disk. By a country mile. Honest.

FAYOH

By: .... NC Gamez
Ware: .... Share
PD Library: ... Classic Amiga Software
No of disks: .... One
Price: .... £1 + 75p P&P

This is a 5-level demo of an absolutely corking platform adventure, which comes complete with its own (slightly unpleasant) scene-setting story.

FaYoh casts you as a small green gum, who has fallen in love with a cute female gum, Audrey. The two met when Ed, the young smoothie who purchased and then chewed FaYoh, kissed a girl who was chewing Audrey. After exchanging bodily fluids with Ed, the girl heartlessly spat Audrey out. Later, spewed, post-chew, from the mouth of Ed, FaYoh decided to hunt for his lost love.



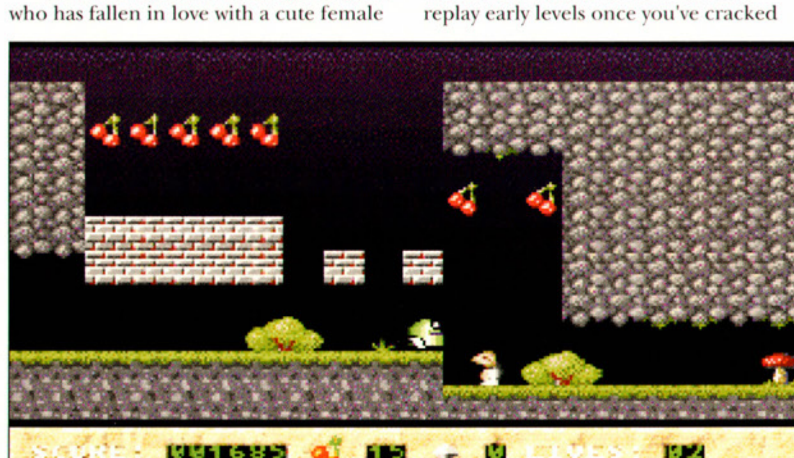


By gum, there's some top fruit-collecting arcade action to be had in *FaYoh*.

Owing more than a little to Nintendo's stunningly successful Mario series, *FaYoh* is essentially a left-to-right jumpy-scrolly affair. Our cute green hero must collect cherries and diamonds which are concealed in bricks suspended above his head and are released when he jumps up and head-butts them. FaYoh must also avoid contact with nasty beasties, although if he jumps on their heads he can get rid of them permanently.

With an instinctive control mechanism, some colourful graphics, passable music and a wealth of platform playability, *FaYoh* is a definite winner. The only criticism I have is that the action isn't quite as fast as it might be. Still, you can't have everything...

The full version of *FaYoh* includes 28 levels plus a number of hidden levels, more varied background graphics including a snow world, a temple world and a candy world, and save and load functions so that you won't have to replay early levels once you've cracked

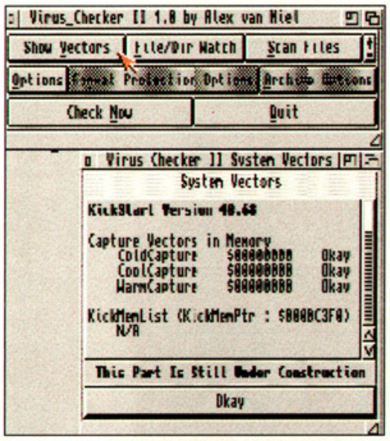


A spat-out ball of chewing gum on a mission to find his lover, another bit of gum, via a bit of fruit collecting and cute-mole squashing? Hmmm. Very surreal.

them. The authors suggest a donation of between six and ten quid, in exchange for which they'll email the full version out to you with all haste.

VIRUS CHECKER II V1.0

By:	John Veldthuis/Alex van Niel
Ware:	Share
PD Library:	Classic Amiga Software
No of disks:	One
Price:	£1 + 75p P&P



Keep your Amiga healthy and virus-free with regular check-ups.

John Veldthuis' *Virus Checker 7* has been taken over by Alex van Niel and it's been updated to cope with the latest Amiga viruses, including several strains of BOKOR and ZIB and some trojans.

The interface has received something of a facelift, but essentially *Virus Checker II* fixes bugs in the earlier versions of the program and further expands its features and functionality, making this latest version of the most famous Amiga anti-virus utility something of an essential purchase.

If you run *Virus Checker II* from Workbench it creates an *AppIcon* on your screen. You can drop files and folders onto this for automatic virus scanning. Although you'll be able to scan disks for viruses quite effectively using just the freely distributable version of *Virus Checker II*, the program is actually Shareware and you really should register your copy with the author if you continue to make use of it.

Registration costs US$20 or 40 Dutch Guilders, for which you will receive a keyfile. This gives you access to one of the more powerful features of *Virus Checker II*, being able to scan *LHA* and *LZX* archives for viruses.

The author intends to add features that should make *Virus Checker II* powerful enough to become a full online BBS virus-checking tool. Again, these features will only be available to registered users. Amiga viruses aren't as common as they once were but that's no cause for complacency.

With the Internet making it possible to propagate infected files extremely quickly, the threat to individual users is still very much a reality. If you want to be as safe as possible, make sure you get hold of *Virus Checker II*.

PRINT PACK 1.0

By:	Various
Ware:	Free
PD Library:	Classic Amiga Software
No of disks:	One
Price:	£1 + 75p P&P

This disk contains drivers for several Hewlett-Packard colour printers – the Deskjet 670C, 820C, 870C and 890C to be specific. It also includes two programs, *Etiketti* and *ScanTek*. It's not a very exciting disk, but it could definitely be useful if you have a printer or scanner sitting idle.

ScanTek is a scanner driving program for a range of Microtek, Highscreen and Mustek black and white and colour machines. Now at version 3.5, it supports a wide selection of scanner models and comes with a collection of ARexx scripts illustrating how the software can be used.

Etiketti 2.5 is a utility for creating disk labels for 3.5" floppies. It allows you to read a directory listing from a disk, add some of your own comments and then print out the results. It's extremely easy to use and the results are reasonably impressive too.

CLASS HD UTILS 29

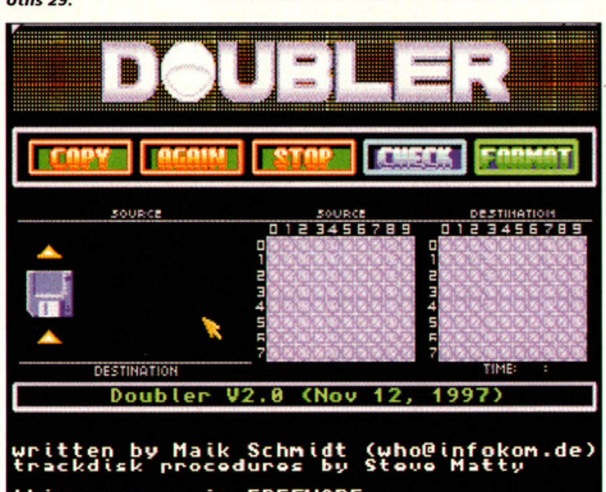
By:	Various
Ware:	Free
PD Library:	Classic Amiga Software
No of disks:	One
Price:	£1 + 75p P&P

Roll up, ladies and gentlemen, roll up. For your enjoyment and amusement we present another assortment of utilities of varying quality and degrees of usefulness.

First up, there's *MPEGAplayer*, which is an MPEG music player for *Delitracker*. The MPEG audio format doesn't really seem to have caught on to the extent that many would have liked, but you can still find some pages on the Internet for which the relevant decoder is essential. Because decoding the format is extremely CPU-intensive, you'll need at least an '020 machine to use this.

Similarly noteworthy in broadening the Amiga user's horizons is *Cat Doc*, which converts Microsoft *Word* documents into ASCII format. Microsoft are legendary for their fiddling with the headers of *Word* documents, meaning that, for instance, Macintosh versions of *Word* have difficulty reading PC *Word* files and vice versa. Created in December 1996, this converter should be able to cope with files generated by all but the most recent (*Office 97*) version of *Word*.

Copy your disks using *Doubler*, just one of the utilities to be found on *Class HD Utils 29*.



Aside from that, we have a DMS uncompressing utility, aptly named *DMS-2-HD*; a hard drive password protection program; *Doubler*, a disk copying utility; and an '060 speedup patch called *SpeedyChip*. There are also a couple of WB backdrops, an "Intel Outside" badge and a fairly ordinary manga image.

Little Black Book is yet another simple database for names, addresses and telephone numbers. Then there's *WHDLoad*, which is designed to help you install programs on your hard drive which ordinarily would only check your floppy drive. There's *TalkTime*, another speaking clock program which allows you to use samples of your own voice if you're vain enough; there's *Screen2IFF*, a screen grabber which, unsurprisingly, saves grabs in the standard Amiga file format; there's *RaxChange*, a currency conversion program; and the LZX keyfile, which is now freely distributable.

As usual with the disks in this series, there's such a wide variety of stuff on here that most people should be able to find at least the odd program which is of use to them.

Top 10 Public Domain titles

1. AMIGADOS TUTORIAL
2. VIRUS Z V1.42
3. EPSON COLOUR DRIVERS
4. GRAC TUTORIAL
5. WHITE RABBITS
6. MORTON STRIKES BACK AGA
7. AMIPETS
8. FEDERATION 2
9. CRUNCHMANIA
10. BATTLESCAPE

F1 Software, 1 Lower Mill Close, Goldthorpe, Rotherham, S. Yorks, S63 9YB. Tel: 01709 888127. Website: www.ware5d.demon.co.uk

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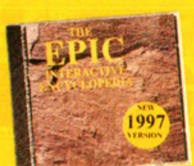
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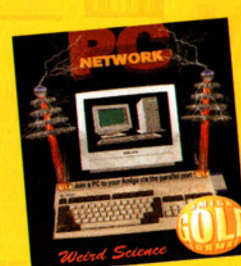
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SERIOUSLY AMIGA

In-depth reviews of hardware and software that you can trust.



With the advent of working Zorro backplanes available for the most popular Amiga on the planet right now (the A1200 as if you couldn't guess) I can only hope that more and more people get graphics cards to really speed up their graphics.

While it's true that AGA is a lot better than ECS, you really ain't seen nuthin' if you haven't experienced the joy of running Workbench (or DOpus Magellan) on a 16-bit screen with the ability to view images and animations in windows on that screen, rather than resyncing your monitor to show them in a different screenmode and the like. The Amiga's custom chipset is great for video use, but for real desktop power of the kind that most people seem to want, a graphics card is the best way to go.

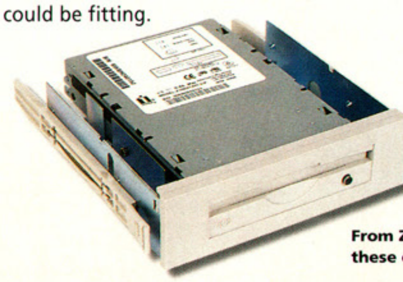
Ben Vost

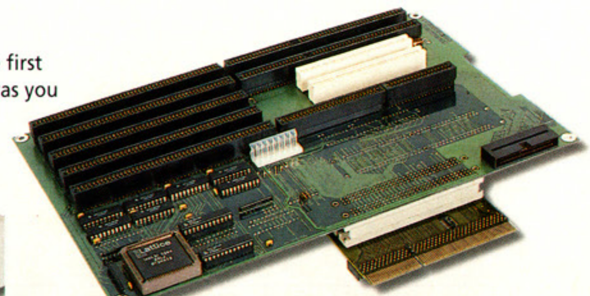
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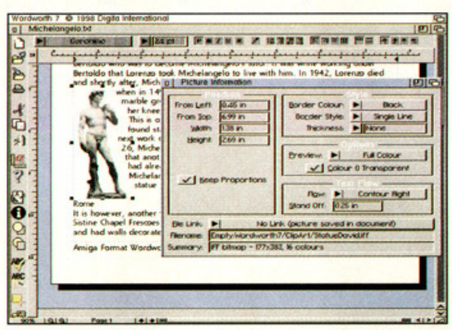
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80-89%	These products are very good, but there are minor flaws or areas that could be improved upon.
70-79%	Not a bad product but quite possibly one that needs a serious update.
60-69%	Average products with somewhat limited features and appeal. Products in this category tend to be flawed.
50-59%	Below average products which are unlikely to impress your mates or your wallet. Avoid.
40-49%	Overwhelmingly poor quality products with major flaws.
Under 40%	The absolute pits.





From Zips to Zorro, your A1200 could really benefit from some of these extras.



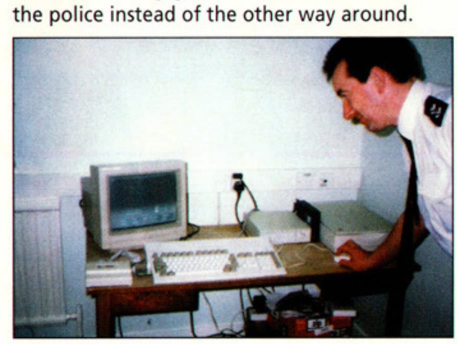
So much style that Michelangelo would be impressed.



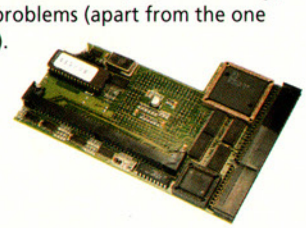
Oh no! Which one should I choose to develop for?



The modem's the one on the left, by the way.



'Allo, 'allo, 'allo, what's this button do then?



An accelerator card, yesterday.



Privacy becomes even more important when you're all digital.

Powering up your Tower

Nick Veitch takes a look at the range of tower accessories currently on offer from **Power Computing**.

The release of the Power Tower and the availability of other tower systems has created a new boom in A1200 upgrades and the availability of various peripherals to improve your system. Over these pages we are looking at the upgrades offered by Power Computing, designed for their Power Tower (reviewed in *AF107*, 97%).

Of course, many of these devices are suitable for use with other towers, or indeed, big box Amigas.

You can also add standard 3.5" or 5.25" drives from other companies, assuming you have the right interfaces.

If you still need convincing about rehousing your Amiga, just take a look at this little lot…

24 X IDE CD-ROM drive

AMIGA GOLD FORMAT

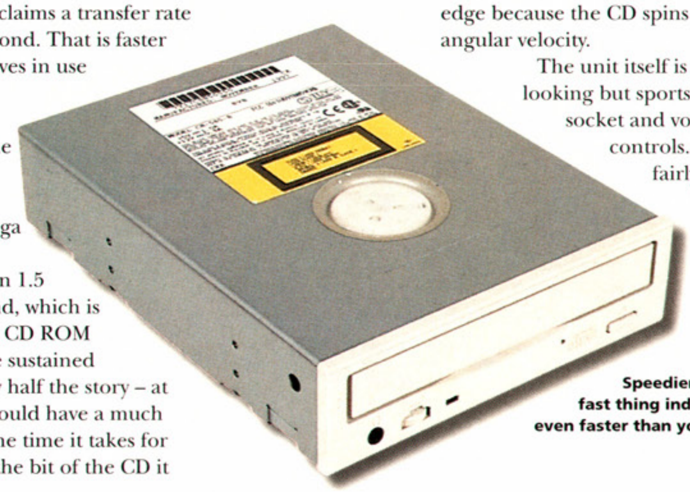
£69.95

90%

How fast do you want to go? It doesn't seem that long ago that a quad speed CD-ROM drive seemed fast, but technology marches ever onwards. This internal IDE drive claims a transfer rate of over 4.5 Mb/second. That is faster than most hard drives in use on the Amiga.

It should be pointed out that the top speed you can expect out of an unadulterated Amiga IDE interface is somewhere between 1.5 and 2Mb per second, which is equivalent to a 12x CD ROM drive. However, the sustained transfer rate is only half the story – at least a 24x drive should have a much better seek time (the time it takes for the drive to get to the bit of the CD it wants to read) and thus, in real terms, it will be faster than a 12x drive connected to the same machine. However, the 24x rating only applies to data at the outside edge because the CD spins at a constant angular velocity.

The unit itself is rather plain-looking but sports a headphone socket and volume controls. The tray is fairly chunky and reassuringly solid compared to most newer CD drives, which is probably a good thing considering the speed the thing spins at. When it first starts up it sounds like a mini vacuum-cleaner.



Speedier than a very fast thing indeed, maybe even faster than your hard drive!

However, when it's going, it is fast. It's just as though you were accessing a hard drive (in fact, it is probably faster than your hard drive).

Icons appear immediately, files load quickly and animations play smoothly. The drive also supports direct CDDA, which plays back perfectly.

It is quite noisy when in use, and so it's not recommended for those who often use their machine when hung-over. However, it isn't terribly loud and the noise certainly wouldn't be too noticeable in a busy office environment.

The drive parks itself after a period of idleness, so it's not as if it's particularly loud all of the time either, and at a price this low, who really cares?

PCMCIA adaptor

£29.95

85%

The main problem which some people face when presented with the task of rehousing their A1200 is attaching their PCMCIA peripherals. The problem is simply one of space. In many tower cases you will simply not have enough room to extend peripherals laterally from the motherboard.

The PCMCIA interface never really took off as a great place to put things, except in the case of HiSoft's award-winning Squirrel, and the last thing you want to do now you've got a big owner with plenty of room for internal drives is lose your SCSI interface.

The PCMCIA adaptor is simply a right-angled connector which plugs into the A1200 and allows the Squirrel, etc, to plug in perpendicularly to the main board. One note of caution should be made here though, as the PCMCIA interface on the A1200 is quite fragile.

If you are going to hang things off it at funny angles, you should secure them to the case in some way. If you use some thick tape or glue then you shouldn't have a problem. Aside from that, this simple bit of hardware works fine. The price does seem to be a bit steep for a few angled connectors, though.

Internal IDE Zip

£149.95

AMIGA GOLD FORMAT

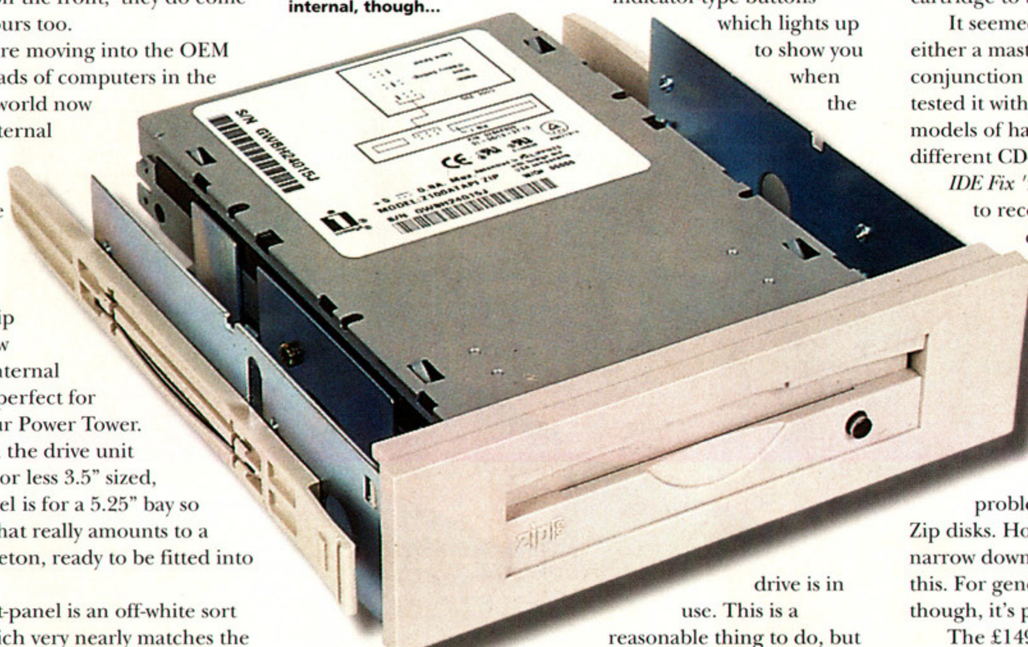
91%

Everyone in the Amiga world must have heard about the Zip drive. Whilst we normally mentally picture them as those stylish blue external SCSI devices, with the chunky power supplies and the big grey button on the front, they do come in other flavours too.

Iomega are moving into the OEM market, so loads of computers in the Mac and PC world now come with internal Zip drives. This is something we should be grateful for because it means that Zip drives are now available as internal IDE devices, perfect for adding to your Power Tower.

Although the drive unit itself is more or less 3.5" sized, the front panel is for a 5.25" bay so it comes in what really amounts to a 5.25" exoskeleton, ready to be fitted into a 5.25" bay.

The front-panel is an off-white sort of colour, which very nearly matches the colour of the tower. Instrumentation on the front panel is minimal, with just a button and a slot for inserting and removing the Zip disks. In fact, it doesn't look much like the highly ergonomic external Zip at all.



Zippy, although not as fast as the SCSI version. It is internal, though...

The button is one of those indicator-type buttons which lights up to show you when the drive is in use. This is a reasonable thing to do, but the button is a bit small, presumably because a big button that lit up would be more pricey. The movement isn't great and it is often difficult to tell whether you have actually pressed the button or not. I spent many minutes during the test waiting in vain for a cartridge to be ejected.

It seemed to run quite happily as either a master or slave when used in conjunction with the other devices I tested it with, including two different models of hard drive and a couple of different CD-ROM drives.

IDE Fix '97 seems to be quite happy to recognise and mount it as a drive if you are using it on a buffered interface.

In use I found the IDE drive to be generally just a little slower than the external SCSI Zip I had been using, and for some reason it seemed to have occasional problems reading Mac formatted Zip disks. However, I was unable to narrow down the specific reasons for this. For general use as an Amiga drive though, it's pretty much perfect.

The £149.95 price tag also includes the Buffered IDE interface and a Zip Tools cartridge.

Buffered IDE interface

£30.95

AMIGA GOLD FORMAT

90%

If you want to run more than two IDE devices from your Amiga then you'll need a buffered interface/splitter. The one offered by Power Computing currently allows you to connect up to four separate devices to your Amiga. In effect it is just a small PCB with a number of IDC connectors on it and a minimum of other components.

The card connects via a small cable to the IDE interface on the A1200 motherboard. A miniature set of pins on the interface allows you to use your existing cable to attach a hard drive (although if it is a short cable for a 2.5" drive, you will have trouble finding somewhere to put it safely and it would be better for you to get a longer cable). The other two sets of pins are for attaching standard IDC headed internal IDE cables to.

This interface comes with a registered version of *IDEFix*, which is necessary if you want to use more than two IDE devices (as a master/slave pair). *IDEfix,* at least in it's '97 incarnation as supplied, is a lot better than earlier versions, but you may still have to do a warm reset to recognise all drives that are connected if they're slow to spin up.

> ... you can even attach drives which ordinarily don't get on together, like many different makes of hard drive.

As you now have two essentially separate IDE interfaces you can even attach drives which ordinarily don't get on together, like many different makes of hard drive.

Thankfully, HDToolbox and CBM's aging scsi.device can still recognise them as separate units. This means you can still use HDToolbox to partition new drives if you wish, although *IDEfix* also comes with some prep software.

Continued overleaf ➡

Zorro II daughterboard

AMIGA GOLD FORMAT

£149.95

90%

This is, for some, the most important add-on of all. The ability to drive standard Amiga Zorro cards from your A1200 was simply not possible before the MicroniK Zorro expansion.

Why would you want to? Well, for a start it is the only way you can drive any currently available graphics card. Add to that the potential to install any of the countless other Zorro expansions available – Ethernet cards, frame grabbers, 16-bit sound cards, SCSI interfaces, multiple IDE controllers, additional I/O ports... the list is almost endless. Installing some Zorro slots could only be a good thing.

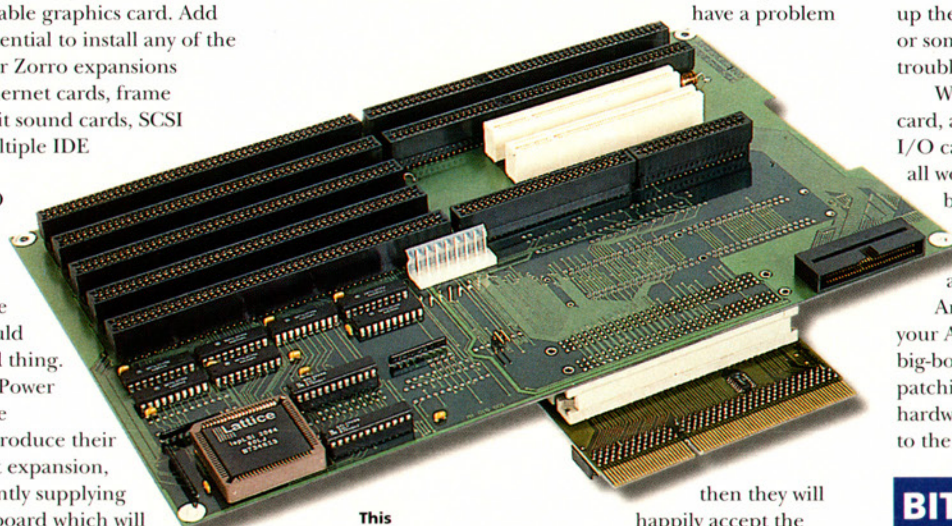
Although Power Computing are intending to produce their own Zorro slot expansion, they are currently supplying the Micronik board which will also fit in the Power Tower.

Connection is fairly straightforward, although if you have already constructed your tower you are going to have to disconnect all your drives and take the side panel off to secure the board in place.

The Zorro daughterboard is about two thirds of the size of the A1200 motherboard, and attaches over it at the top of the tower (or on the right hand side of the A1200 if you are still in the habit of thinking of it as a horizontal system). It connects onto the (former) trapdoor expansion slot.

The card fits onto the trapdoor slot by means of a small adaptor, which has a through port if you wish to connect an accelerator. There is one potential problem and one inconvenience with this. The inconvenience is that because of the extra length of the adaptor, your accelerator may now be a very tight fit inside the tower. In fact, in the case of some of the larger boards, you will have to reassemble the side wall and then lever them into position from above. This is not dangerous but in some cases it can be a little tricky.

The only real potential problem is that this adaptor seems to cause some difficulties with individual accelerator cards. By extending the length of the tracks, some accelerators are no longer able to communicate properly with the motherboard. This doesn't seem to be down to particular makes or models, but rather individual cards. Only a small number seem to be affected, so it is a problem you're unlikely to come across. Power have said that if you do have a problem then they will happily accept the Zorro board back for a full refund.



This daughterboard features 2 PCI slots, 2 ISA slots and, of course, 5 Zorro II slots. Now you can make use of the wealth of Zorro-based Amiga hardware!

Power are also working on their own trapdoor expander/adaptor, which will eliminate the first problem and should dramatically reduce the number of cards affected by the second.

Once connected, the Zorro daughterboard is further supported by four metal spacers which screw into the sidepanel. Because of the positioning of the motherboard, the daughterboard is not supported along one edge, but it is still very firmly attached.

If you have a clock-port expansion such as the Catweasel 2 then it is probably wiser to connect this first, as getting to the clock-port afterwards can be rather tricky. Thankfully, the underside of the Zorro daughterboard becomes a very convenient place to attach such an item.

The power cables from the PSU should now be attached to the Zorro daughterboard, via the small adaptor cable supplied. The Amiga motherboard will now receive its power through the expansion port so there is no need for the external power connector any more.

Once installed, you can now make use of your new slots. Fitting a Zorro card is actually easier than it is in the average big box Amiga. You simply have to take off the Tower's lid, undo a blanking plate, lever the card in, screw it to the backplane and off you go. The only problems come if you have loads of cables all over the place for your internal drives. If so, do the sensible thing and get longer cables and route them along the bottom of the case and up the side, secured with a bit of tape or something – it will save you a lot of trouble in the end.

We tested a GVP Spectrum graphics card, a V-Lab frame grabber and a multi I/O card with this expansion and they all worked fine. Some of the cards can be a rather tight fit if they are full length, but at least when you get them in you know they are going to stay there.

And so it works. In fact, as far as your Amiga is concerned, it is now a big-box machine. There is no software patching or anything to be done as the hardware takes care of it all. Welcome to the world of Zorro.

BITS AND BOBS

There are various other bits and pieces which are currently available for the Power Tower from Power Computing:

IDE CABLE (£9.95) A simple, standard 44-way cable with one IDC connector at one end and two at the other for attaching internal IDE devices.

SCSI CABLE (£15.95) A standard 50-way cable with one IDC connector at one end and two at the other for attaching internal SCSI devices.

SCSI I BACKPLANE (£19.95) An internal 50-way SCSI connector, with a 25-way D-plug mounted on a standard backplane (allowing external SCSI devices to be added).

SCSI II BACKPLANE (£25.95) As above, but with a SCSI II, high density, 50-way external connector.

SCSI III BACKPLANE (£29.95) As above, but with a SCSI III ultra-wide internal connector (for use with a PPC SCSI port or similar), and a high density external connector.

AUDIO CONNECTOR (£15.95) A phono backplane complete with leads for attaching to an internal CD-ROM drive, to allow external amplification (for listening to music or for playing games which use CD audio tracks).

Wordworth 7

You know that Spring is in the air when there's a new version of ***Wordworth*** around the corner. Ben Vost breathes deeply and goes "Aaaah..."

AMIGA GOLD FORMAT

ON THIS MONTH'S CD

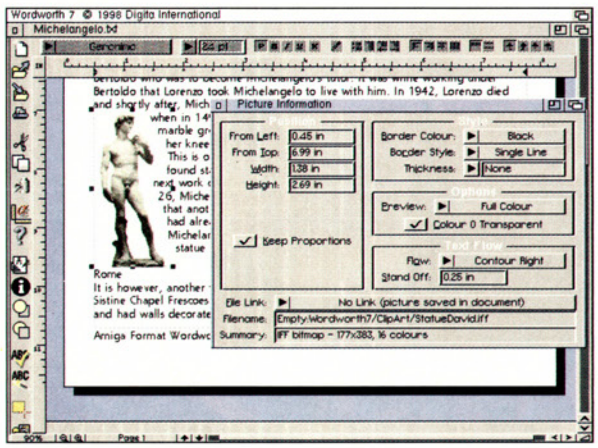
AFCD25:-Seriously_Amiga-/Commercial/Wordworth

So it might have come as a bit of a surprise to some of you but, yes, there's a new version of *Wordworth* hitting the streets as you read this. As you might have imagined, it's not *Wordworth 6.1* or *Wordworth 6.5* but a whole new version – *Wordworth 7*! The crowd are going wild!

As you can imagine, the changes are huge and manyfold. Well, no they aren't really, but it's getting harder and harder for Digita to come up with really new ideas that people will use. After all, by the time *Wordworth 4* came out, it could process words, which was quite a good thing, so what else was there to add?

These days, merely processing words isn't enough in a word processor, otherwise Arnor's *Protext* would still be with us. No, what's really needed in a word processor is... graphics! So began the addition of drawn elements to *Wordworth* and other Amiga word processors, until what began as a humble tool for writing letters turned into a mini-DTP program which would suit practically any printing needs. It's no bad thing if you can do everything you want in a single package as it makes you, the user, far more productive.

> "The most important single addition must be the AutoSpell feature that underlines words as you type them in..."



Picture handling is very good, but there's still no jpeg support.

But just what has been added to this latest incarnation of *Wordworth*? The most important single addition must be the AutoSpell feature that underlines words as you type if it can't find them in its dictionary. Very nice, but make sure you have a speedy processor otherwise it won't be "spell as you type", more "type away and then wait for a few minutes while it goes through the dictionary".

Once you have underlined words in your text (shame on you for not knowing how to speel!) you can double click the right mouse button on them to pop up a menu of possible spellings, along with a learn item. It's a feature found in word processors on other platforms and it's one that's often been requested by Amiga users, so it should come as a welcome addition.

Personally, I find that it interrupts my "visual" flow as the screen updates to show these underlinings and the typing of characters to the screen seems to slow down a bit, but for people who don't have to type every day, I would say that it's a fine feature. Those of you using Magic Menu may have to disable it to use the double right mouse button click since it interferes with the context-sensitive menus on an intermittent basis.



Context sensitive menus can pop up over words, paragraphs or virtually anything.

Of course, AutoSpell isn't the only new feature, otherwise we'd have to really complain about the version jump. Spelling has had a bit of a complete overhaul. There are now new settings for the spell checker which include ignoring words that have numbers in them or that are completely made up of capitals. There's better RTF handling that now supports style sheets, footnotes and endnotes and header/footer text.

You can have linked text frames to blur the boundaries between WP and DTP even further and you can use font styles in Text Effects, although only applied to the whole text.

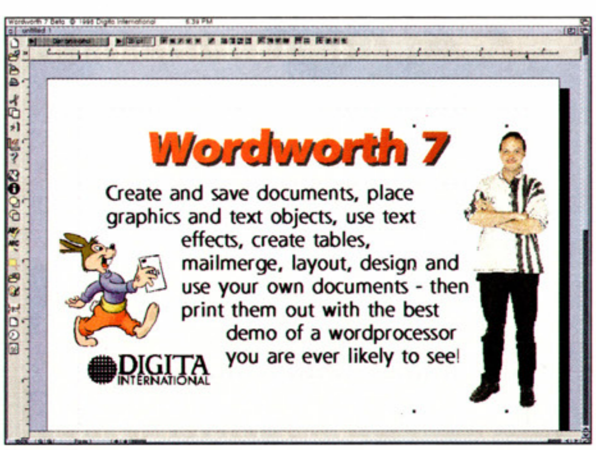
Graphics functions have been further improved too. There's a whole new gizmo called Quick Shapes which gives you a palette of handy (and hard to manually create) shapes which can be quickly and easily inserted into your document, and you can now apply borders to imported pictures. This is very nice, particularly with the "shadow" style of border which just puts a line on the bottom edge and right side of the picture. Making this line grey results in quite a nice drop shadow effect.

Also, you can now align objects very successfully. In keeping with the rest of *Wordworth*'s "non-modal" requestors, you can apply changes to alignment and then keep track of them as they occur

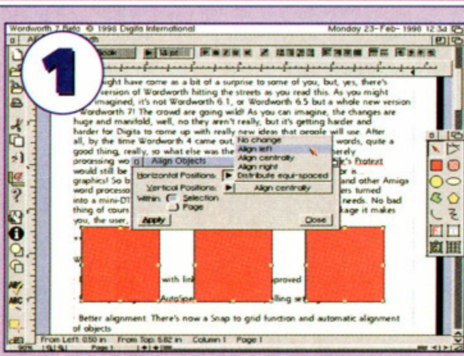
WHAT'S NEW?

- **Better text handling with linkable frames and improved RTF support.**
- **Better spelling with AutoSpell and improved Spelling settings.**
- **Better alignment. There's now a Snap to Grid function and automatic alignment of objects.**
- **New Quick Shapes palette for instant drawings.**
- **New context sensitive menus and "Cool Look" gadgets.**
- **Better picture import with borders.**
- **Better undo function with more features.**

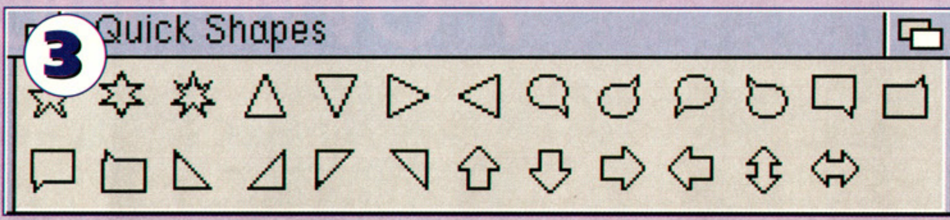
Don't forget the special, exclusive demo on our CD this month!

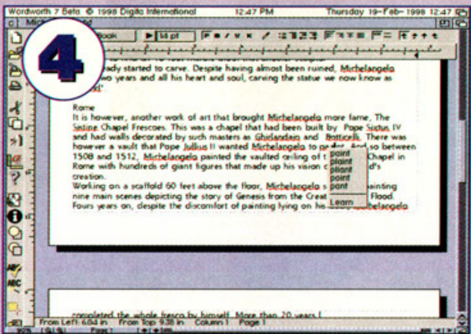


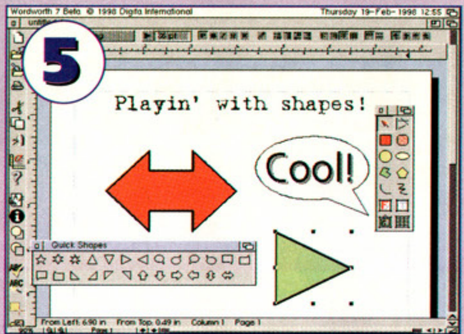
NEW BITS

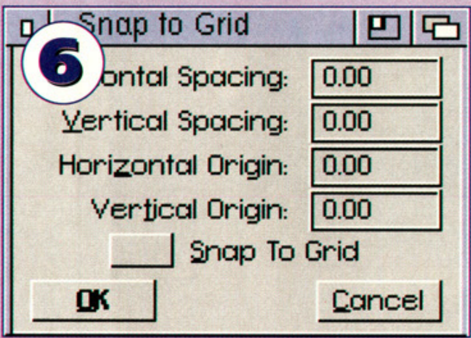




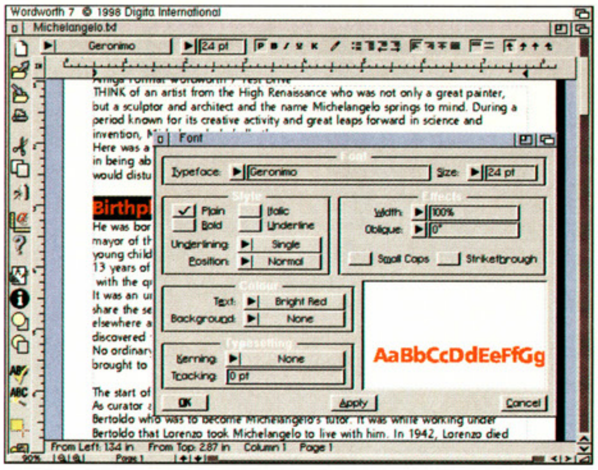








1. *Wordworth*'s new Align Objects feature means that you'll never have to judge by eye the alignment of elements on the page.
2. These new picture borders should come in handy, especially the Drop Shadow one.
3. Quick by name and quick by nature, these shapes won't be ideal for everything, but when you need them they'll come in handy.
4. Context sensitive right mouse button menus make for more usability, but you may have to disable Magic Menu first.
5. There's no reason why your documents have to be dull, especially with the new Text Effects styles.
6. This rather forbidding requestor allows you to set up a grid for all page elements. It would be nice to have a manual preview though, like *PPaint* offers.



Font handling is good with Compugraphic support and automatic substitution for PostScript output.

on the page, without even having to leave the requestor.

The last big addition is an improved Undo function which can now handle things like text formatting and object movements and sizing, and is much more "intelligent" about what it should be undoing. There's also a new "Cool Look" interface for the toolbars, but this just consists of removing the borders from between the icons used in the toolbar to give a much looser look.

Moving on to things which could still be improved, I would like to see much better support for footnotes. At the moment a footnote is created by typing into a textfield. This is fine except that it provides no means of spell checking it, adding styles, or, if you are still using standard textfields, of moving between words easily and quickly. There seems to be little control over how much of a page can be taken up with footnotes.

Creating lists, other than tables of contents, still seems to be quite cumbersome. You have to make list entries and insert them, rather than the software dynamically altering numbering to accommodate new entries like an outliner would. I would also like to see a screen DPI setting like *Final Writer*'s (perhaps in an expert mode, or as tooltypes in the icon for *Wordworth*), so users of screens with a higher resolution than default can have 100% page sizes that are more accurate.

Finally, object grouping commands with keyboard shortcuts would be good, preferably with an extra command to ungroup all if there was more than one level of grouping in a group. It's nice that *Wordworth* supports a variety of picture formats, but I'd like to see the addition of JPEG and PNG to the list, and/or datatype support.

Other than that, *Wordworth 7* is very good. In the past, I've always relied on programs like *Turbotext* for my text entry and, if I needed a decent printout or needed to add things like pictures to my text, I'd fire up *PageStream* and import the text in there and work on it.

Using *Wordworth* for this review has shown me that it really has improved in usability since the first time I used it. If you got yourself a copy of *Wordworth* a while ago and either haven't used it much or just haven't upgraded, I would urge you to do so now.

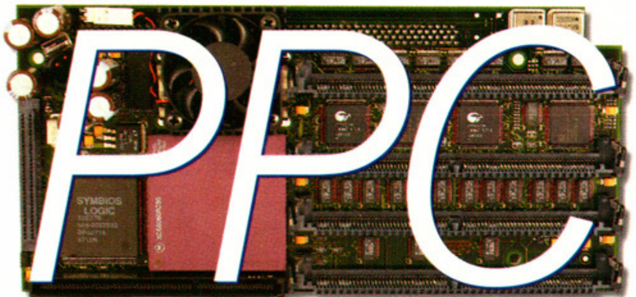
Although I'll probably rely on *Turbotext* for typing out my reviews for a long time to come, I know I won't bother to use *PageStream* just to write a letter to my grandmother again when *Wordworth* is so much easier to use.

DISTRIBUTOR: Digita International (01395) 270273
PRICE: £39.99 Upgrades £24.99 (+£3 p&p)
REQUIREMENTS: HD, 4Mb RAM, fast processor recommended

SPEED: Fast considering how much it does.	●●●●○
MANUAL: Online docs only.	●●●○○
ACCESSIBILITY: It's always been good and this version is even nicer.	●●●●●
FEATURES: Very few can be considered to be missing now.	●●●●○
VALUE: Excellent value for money. Everyone should have this program.	●●●●●

OVERALL VERDICT:
As worthy of a Gold award as ever.

92%



PPC Progress

Simon N Goodwin reports on competing ***PPC*** software standards and improved Amiga memory management.

WarpUp Vs PowerUp

We now have three system 'kernels' for Amiga applications and programmers. There's the original Commodore EXEC kernel, built into every Kickstart ROM, phase 5's PowerUp and now there's WarpUp, a surprise new Freeware release from Haage and Partner. PPC users need a new kernel as the original only supports 68K processors, but do we really need two?

WARPUP

WarpUp is a spin-off from the friendly, but buggy, Storm C development. It uses standard Amiga code files rather than phase 5's alien ELF format. Many familiar Amiga system calls are supported, plus some that should have been added long ago. It gives coders legal ways to get top speed on high-end Amiga systems, using techniques prohibited or discouraged by Commodore. Most important is full control over memory management, discussed in the adjoining box.

WarpUp demos support Amiga ECS and AGA screens as well as graphics cards through CyberGraphX or Picasso 96 RTG. They allow direct comparisons between the RISC and CISC processors, and some even run on old systems like our A3000 – a good way to see how far the Amiga has advanced in eight years!

> *phase 5 run the risk of fragmenting an already small market if they ring the changes too many times...*

WarpUp's English documentation is readable and sometimes even witty. It explains new facilities in the context of well-known Amiga routines and file structures, while phase 5 go off on a tangent, basing their code and data on Unix 'standards' with scant explanation for Amiga specialists. This makes sense from their point of view as it seems the A/BOX will be a Unix Workstation without support for Amiga operating system features. PowerUp is designed to wean programmers away from the Amiga way of doing things, leaning towards the Unix environment instead.

The new boy on the block and it's free, but can Haage and Partner's WarpUp cut it?



POWERUP

phase 5's PowerUp owes much to the A3000UX, which put an early port of Unix system five release four (SVR4) onto A3000 hardware. Despite this, and interest from Unix workstation giants Sun, Commodore shipped far more A3000s in their Amiga guise than as Unix boxes. Today you can run two free versions of Unix, NetBSD and Linux, on Amigas with memory management hardware. Amigas can become quite nice Unix boxes, but even with UAE and the latest processors from DEC or HP, Unix boxes remain rather lacklustre Amigas.

phase 5 demos generally insist on their proprietary CyberGraphX, some needing version 3, tailored for specific features which are unique to phase 5 hardware. They will not run unless the phase 5 powerpc.library is present and working.

phase 5's documentation for programmers is poor and badly translated. It's derived from the Gnu-based ADE (Amiga Development Environment) and the free GCC compiler, which is a true C++ compiler but creates poor code for 68K processors, especially later models, even lacking support for the 68060.

CONTROL

phase 5's strength is that they control the hardware. They can improve the interface between processors, use undocumented short-cuts and generally change the rules to suit themselves and confound rivals. This may seem to be unfair but phase 5 have managed to get a PPC working inside an Amiga, a feat which no others have achieved, so they're entitled to call the shots with regard to hardware.

It's less clear that they will be able to control PPC software. They can certainly

THE CACHE CATCH

Without caches, a 68060 would run at 20% speed and a PPC would be slower still. But not all programs benefit from caches. Predictably, benchmarks gain most and programs that work on real-world data benefit least. Hand-optimised code, designed for top speed in emulators or rendering, keeps temporary results in registers. This is easy on PPC or 68K and tricky on Intel, and rarely needs to re-read external memory.

Raytracers that scan large areas of memory cannot benefit from faster re-reading from the cache. They might even suffer from assumptions made to speed up 'average' cache performance. Modern processors rely on 'locality of reference', assuming that if a certain location in memory is accessed, nearby locations will soon be called upon so they load 'lines' of four adjacent words every time the cache cannot satisfy an access.

This boosts many programs but can be bad news for ones with a large data set, including mapping demos, rendering packages and real time audiovisual editors – just the sort of things that should fly on modern processors. Worse yet, Motorola memory management units only keep tags on a fraction of a megabyte at a time. If programs cyclically access a larger area, they churn data through the address translation caches, resulting in up to eight fetches for each one required by a simpler processor.

If a large buffer like stereo sound or animation is held in the default Copyback memory, which caches writes as well as reads, each word loaded displaces another word from the cache which must be written out to make space. Yet that might be a variable which will be needed later, whereas the buffered data, now riding high in the cache, will never be accessed again. Three accesses have replaced one and it is the memory access which becomes the bottleneck.

Knowing this, Motorola designed processor options to over-ride the default caching scheme. Address translation registers and the memory management unit can specify non-cacheable space, and memory that could be cached for reads but not writes – 'Write through' pages, an alternative to Copyback. However, there's no legal way to use these on the Amiga operating system.

Performance programs like *Fusion* and *VMM* break the rules, programming the MMU directly. Generally they get away with it, but they're making undocumented and potentially fragile assumptions about the system. phase 5 perpetuate this in PowerUp, denying programmers access to memory management. They may use the MMU themselves to speed up message passing or prevent problems in inter-processor communication, but these techniques are denied to outsiders.

OPTIMISE THOSE CACHES

This seemed reasonable in the 68030's heyday, but now memories are larger and processors potentially much faster, so cache optimisations can make a big difference. Amiga programmers need to be able to tell the system how they intend to use memory, and hence the best caching scheme. At least until OS 4 arrives, WarpUp is the only way to gain that sort of fine control on an Amiga.

WarpUp allows the cache status of memory to be controlled in 4K sections with the MMU, or larger areas with the BTUs, equivalent to translation registers on modern 68K processors. Memory space can be marked for reading, reading and writing, or neither, depending on the application. Caches can be locked, flushed, disabled or enabled without upsetting other programs.

This complicates programming but can make as big a difference to real programs as the step from CISC to RISC. It enables carefully written programs to make better use of the same RAM – which is ignorant of the RISC versus CISC battle – in a well-defined, system-friendly way. It can also improve co-operation between multiple processors.

> *We're used to an open architecture, compared to the rigid policing… of Apple and the anarchy of PCs.*

create problems for maverick third parties, and can encourage those who toe the line with new features and 'hooks' that will only work on their latest boards. But if they can add something, or remove it, then rivals can attempt to disassemble their code and adapt to the change, given enough time and inclination.

European law specifically allows such 'reverse engineering' for the purpose of 'interoperability'. Even if it did not, it's hard to imagine phase 5 being able to stop it, in practice. All they can do is try to stay one step ahead and borrow good ideas from rivals when they fit phase 5's masterplan.

Meanwhile, users of older phase 5 hardware have a choice of program systems. phase 5 run the risk of fragmenting an already small market if they ring the changes too many times just for the sake of it.

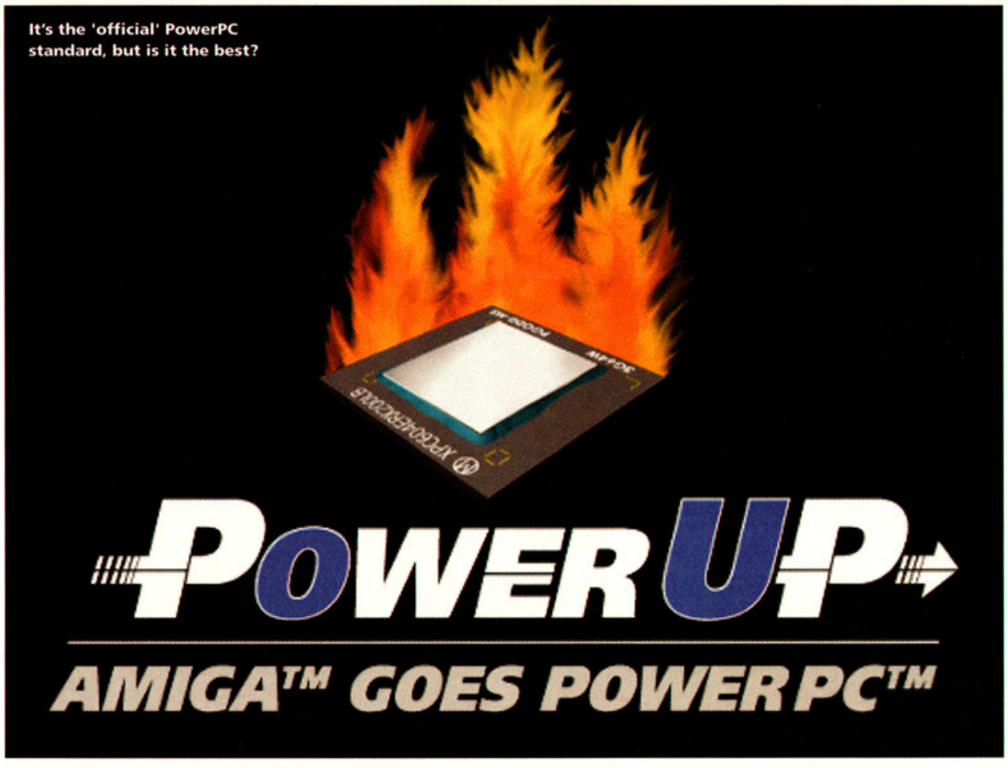
Only they know how future PPC boards will work. It's likely that they will be able to arrange things so that 'alien hacks', as they describe unapproved code, fall over on new products. Microsoft have done this for years and made an awful lot of money from doing it. phase 5 boss Wolf Dietrich is too much of a businessman for this lesson to have escaped him.

The Amiga users' viewpoint differs. We're used to an open architecture, compared to the rigid policing and proprietary 'standards' of Apple or the anarchy of PCs. phase 5 are trading on their advantage as the only suppliers of PPC hardware, but to get the full benefit they need a monopoly of software, too. WarpUp threatens this, which is why they've reacted so aggressively to Haage and Partner.

If other Amiga PPC boards arrive, as seems almost certain unless PowerUp is a flop, then the makers might develop their own PPC library, or use WarpUp code, which is currently freely available.

phase 5 could find themselves sidelined as they were when the free Picasso96 took over the Application Program Interface (API) of their commercial CyberGraphX.

The latest Picasso96 supports more boards than CyberGraphX 3 and runs almost all the same programs – except for the rare releases which insist on phase 5's hardware.



It's the 'official' PowerPC standard, but is it the best?

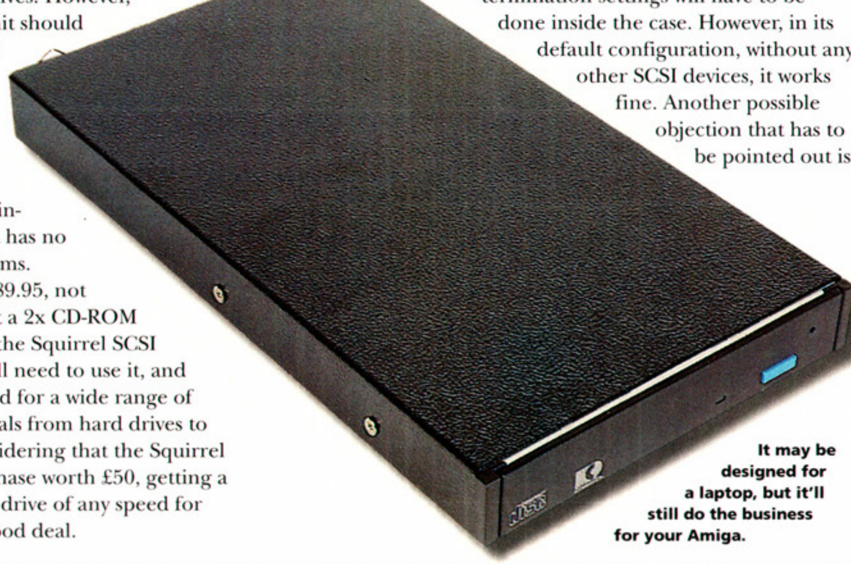
Power CD

Will this bargain CD-ROM drive get Ben Vost in a spin?

AMIGA GOLD FORMAT

The idea that Amiga users should all have CD-ROM drives the way they have hard drives is one that is still taking a while to get through, and this is understandable considering the cost of these drives. However, Power's new unit should resolve most of the cost problems for budget conscious Amiga owners since, as an all-in-one solution, it has no peer in cost terms.

For your £89.95, not only do you get a 2x CD-ROM drive, but also the Squirrel SCSI controller you'll need to use it, and that can be used for a wide range of other peripherals from hard drives to scanners. Considering that the Squirrel alone is a purchase worth £50, getting a SCSI CD-ROM drive of any speed for only £40 is a good deal.



It may be designed for a laptop, but it'll still do the business for your Amiga.

Having said that, all is not perfect in the bargain basement. The casing for the drive offers only one SCSI port so you'll want to put it at the end of your SCSI chain. The SCSI ID and termination settings will have to be done inside the case. However, in its default configuration, without any other SCSI devices, it works fine. Another possible objection that has to be pointed out is the fact that since the CD mechanism was designed for use in a laptop it doesn't fully eject CDs. Instead, you push the eject button, the drawer pops out a short way and you need to pull on it to fully extract the disc.

On the other hand, these are all fairly trivial shortcomings and if you really can't afford a more expensive drive then this is the ideal way to bring your machine into the CD age. Very highly recommended.

DISTRIBUTOR: Power Computing (01234) 851500
PRICE: £89.95
REQUIREMENTS: A1200

OVERALL VERDICT:
Not perfect, but great at the price.

90%

Pace Modem

Ben Vost finds a modem that finally rings in some changes.

AMIGA GOLD FORMAT

Another modem. Sigh! The problem with modem reviews is that because a lot of modems are very similar, the score at the end of the review comes down to how nice the modem looks, how sturdy it is and the quality of the add-ons – all points on which the Pace scores well enough on.

You see, most modems these days offer similar levels of performance, a similar amount of features and similar pricing, so there's not a lot left to talk about unless you want the review to become a redundant enunciation of the facts – does it have a flashROM? Yes. Is it BABT approved? Yes. Does it have voice features? Yes, yes, yes.

The Pace modem actually does add to this universal feature list by being the only modem we know of that actually supports UK caller ID. All the others support a general caller ID standard that is used in a great deal of the world including the United States, but not here. So, score one up for Pace for actually bringing a new feature to UK modem purchasers.

The other point on which it scores is the ability to actually use the modem as a speakerphone. Using *STFax*, you don't have to sit there with a dodgy headset on to talk to people, you can just chat away over the modem instead. This isn't really unique, but the speech quality over this modem's speakerphone seems pretty good. It's hard to tell objectively since you have to rely on someone else's opinion, but reports have been good.



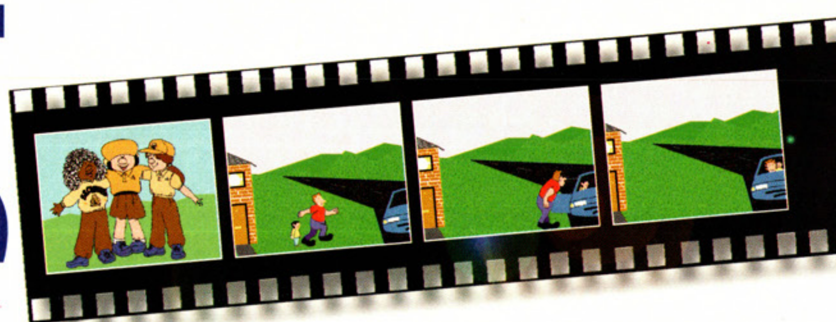
A modem is a modem is a modem. Surprisingly, this is a modem which adds something new.

Overall, I can heartily recommend this modem, especially if you are going to be using it with *STFax* or the like. It is a bit more expensive than the generic brands we covered in *Amiga Format* last month, but the UK Caller ID function alone makes up for that.

DISTRIBUTOR: Active Technologies (01325) 460116
PRICE: £129.95
REQUIREMENTS: An Amiga

OVERALL VERDICT:
Expensive, but very nice indeed.

92%



Police Camera Action

Mark Wheatley talks to Inspector **Steve Hopkirk**, the man behind a major new community safety strategy using Amiga technology.



One of the two setups used to produce the animations.

As the police force have an IT budget, mainly used for PCs, running into millions of pounds, it is perhaps surprising that the latest initiative from Northumbria Police is based entirely around the Amiga. Inspector Steve Hopkirk explains the reasons behind this.

> "...we obviously had to go for the most effective, efficient and economical system available... the Amiga."

SH: *What we are aiming to do is publicise the tremendous success Northumbria Police have had over the last few years. The fear of crime is out of all proportion to the number of crimes actually committed, with the crime rate dropping consistently over the last 5 years. We were concerned that this message wasn't getting through to the public and, as every Amiga owner knows, it's no good having an excellent product if it isn't marketed correctly – just look what happened to Commodore.*

After consulting two of the High Street leaders in self promotion, Marks and Spencer and Asda, we decided that the ideal way to do this was through the use of television. We obviously couldn't afford TV adverts, but we have lots of people through our waiting rooms who have nothing to do and who never read the leaflets there. We thought that we could show videos in our waiting rooms and throughout the local area, and decided that animations would be the most effective way of putting our message across.

MW: Why choose the Amiga?

SH: *I visited the Police Force Graphics Department and, despite there being a collection of thousands of CD-ROM images and expensive Apple Mac machines and PCs, I was convinced that the Amiga I've been using personally for many years now would be more suited to producing what we wanted.*

The equipment was to be bought using public money so we obviously had to go for the most effective, efficient and economical package available, and the system that really stood out was the Amiga. Our initial setup cost only £200, but we now have two superb systems based around Amigas which came to a total price of around £2,000.

When it came to buying equipment, I found that the support of the Amiga community was absolutely tremendous. All of the official dealers offered a lot of help and advice and I couldn't imagine the PC market offering such personal help.

MW: What features does the Amiga have which make it so suited to the task?

SH: *With regard to producing these animations and films, the Amiga is ideal as it can feed directly to video and the multi-tasking facilities are second to none, letting me run* PPaint *and* Scala *at the same time.*

I actually started this project in May 1997, using a copy of Scala *which came free on an* Amiga Format *coverdisk. I'd never used the program before but found that it had a very short and shallow learning curve. The only difficult part was planning what to say, so I always produce a storyboard first now. The officers I am training to use the Amiga system are also finding it very easy to pick up too.*

Despite having absolutely no artistic talent, I found some very good Digita Office *clipart*

A simple but effective animation (below).





Several of the videos use cute cartoon graphics to tackle serious situations, like this road safety animation (above).

AMIGA USERS COMMUNITY SAFETY GROUP

Steve freely admits that his graphic abilities aren't too good and, as this project is conducted in his free time, he would welcome any contributions from the talented artists and animators in the Amiga community.

The idea is to start a group which sends stuff to be collated into themed presentations like road safety or crime prevention. These will then be shown across the Northumberland region, generating publicity for the police, the group and for the Amiga itself.

This would be a completely free service so any art provided would have to be free, to be used for this specific purpose only. There would be no formal membership, just a will to help the Amiga and the public, and a desire to get your work seen by a large audience.



Inspector Steve Hopkirk.

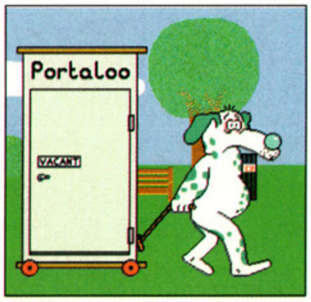
If you want to contribute to this group, send your art or animations on a floppy or Zip (returnable via a stamped/addressed envelope) to: Steve Hopkirk, Sunderland West Area Command, Primate Road, Sunderland, SR3 1TQ. For more details, call 0191 4547555 ext 66231 or fax 0191 5636218.

and produced our first video, which was a five to 10 minute animation, over a weekend.

MW: What was the response?

SH: *I showed it to my Chief Inspector and he was amazed and ordered the purchase of an Amiga-based system. As we mainly use PCs, he couldn't believe that this was done on an Amiga and, unfortunately, that was a fairly common response.*

Everyone was very impressed with the results but assumed I must be using a PC. There's a lot of ignorance about the Amiga, even



Subtly addressing the tricky subject of dogs fouling the footpaths! (Above.)



As well as cartoon animations, several of the films use actual video footage too.

among the local computer retailers, and this is something Amiga Inc. are going to have to overcome if they want to sell the machine in any volume. Many people still think of the Amiga as an A500 and don't realise how much it has developed.

We've also had a lot of positive feedback from members of the public who've seen the presentations. One lady who saw it asked us to produce a road safety video for her Brownies group in London. We've even had several applications from people who want to join the special constabulary purely as a result of seeing our videos.

MW: So the project has been successful?

SH: *Undoubtedly. We're getting our message across in a very cost effective way. I doubt any other computer could do this type of video production for such a small sum of money, especially as the Amiga systems will also be used for making posters, training presentations and officer briefings.*

One of the few problems has been that Scala, who started this whole thing, have discontinued development of the Amiga software and are concentrating on the PC version. I only hope they keep an open mind, considering the Amiga's apparent resurgence, or that they will consider licensing the development. It's a credit to the software that I've been able to produce these videos without a manual – if anyone has one they could lend me, it would be gratefully appreciated!

MW: What would you like to see in the future?

SH: *With regard to this project, I would like to expand our setup, add a graphics card and a digitiser and we will obviously have to look at setting up a website. Our setup is already pretty much ideal for producing quality presentations, although the only weak point is our video. All of the Amiga equipment is perfect for what we need, but the video was very cheap and is causing some colour bleeding.*

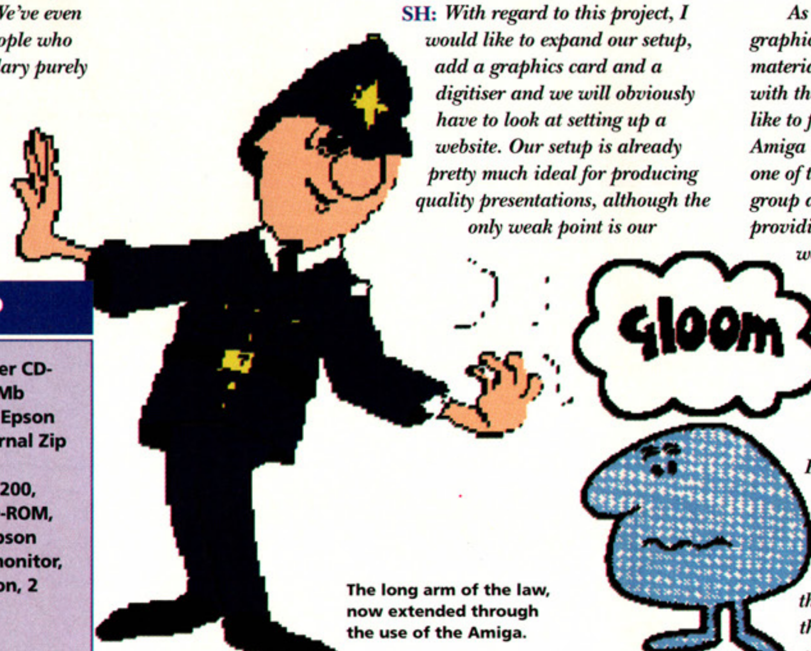
The police force are about to launch the Community Safety Strategy. This is going to become a nationwide project and the people behind it are looking for a way to market this idea and explain its purposes and aims. Following our work here, one of the options being looked at is the use of Amigas. This would be a tremendous boost to the Amiga community and would provide a lot of well needed advertising.

MW: And from the Amiga itself?

SH: *Well, it would be nice to see the 2Mb memory restriction disappear, and the ability to have a full 256-colours on screen at once without it slowing down would be nice. Better Internet and networking facilities should also be available as standard. The ability to dump directly onto video should be kept as that is incredibly useful. It's a niche market that the Amiga should corner and it really should be marketed more.*

As I have already said, I am not a graphic artist and I've been using a lot of material from Amiga Format's cover CDs, with the authors' permission of course. I'd like to form a group where anyone with an Amiga could send me their work for use in one of these projects. I could then credit this group at the beginning of each video, providing publicity for the Amiga. If this was successful then I'd look at getting a sponsored Web connection to make it easier for them to send work to us. If this was sponsored by someone like Amiga Inc. then that would automatically give the Amiga a lot of publicity too.

When I contacted outlets like Power, Weird Science, Harwoods, Wizard, Prima and Eyetech, I was not only impressed by their helpful attitude, but also by their optimism about the future of the Amiga now that it's in Gateway's hands, so I think things are really starting to look up for the Amiga. AF



The long arm of the law, now extended through the use of the Amiga.

SYSTEM SETUP

Setup: System 1: A1200, Power CD-ROM, Blizzard 1230 mk IV, 26Mb RAM, Prograb RT24 Digitiser, Epson GT5000 flatbed scanner, external Zip drive.
System 2: MicroniK tower A1200, Blizzard 1260, 32Mb RAM, CD-ROM, large hard drive, Zip drive, Epson flatbed scanner, Microvitec monitor, PPaint 7.1, Kara Font collection, 2 sets of Scala MM400.
Amiga Format subscription.



Workbench

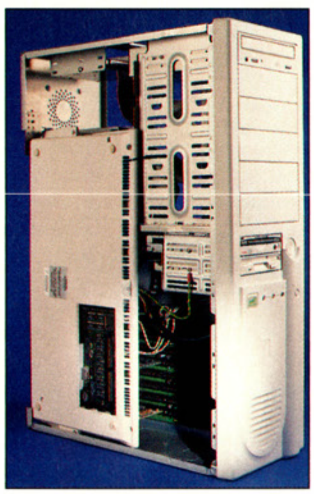
Whether it's monitoring monitors or battling bugs, *AF*'s John Kennedy can solve all your problems. Send your questions to: **Workbench • Amiga Format • 30 Monmouth Street • Bath • Somerset BA1 2BW.**

HOW TO UPGRADE?

I have a very sick A500+, Kickstart v2.4 with 2Mb chip RAM and a now useless GVP A530 Turbo hard drive with 4Mb fast RAM, which broke down with a horrible grinding noise a year ago.

I know I need to upgrade and would like your advice as to which would be the best system to go for.

Before my hard drive broke I was getting very interested in raytracing and I have *Imagine* original, *2*, *3* and *4*, *Real 3D*, *Cinema 4D*, *Vista* and *Vista Pro*.



Will adding an EZ-Tower mean that you lose the ability to have a PowerPC?

I'm also interested in paint programmes like *DPaint 4*, so I will need a fast machine with a lot of memory, a hard drive and an accelerator. I make extensive use of *Personal Finance Manager Plus*, *ProCalc* and *Interspread* and would like the new machine to be compatible with these programs as well.

A large hard drive would be useful, about 2Gb, with a CD-ROM drive, zip drive and a fast CPU. The A/Box would seem to be the ideal machine. When is this likely to be on sale?

I am also considering the Eyetech EZ-Tower Professional Pack, perhaps upgraded to an '040/40MHz or '060/50MHz accelerator and 32Mb RAM, or one of the Infinitiv Amigas. What additional hardware would these need? Could any of these be upgraded to Power PC later and any new OS and/or Workbench?

Which of these systems would you recommend, or what other computer do you think I would need?

A.M. King
Maldon

I haven't heard anything about the A/Box so I wouldn't start holding your breath waiting. I assume you have realised that your A500 is heading for the bin and that it's time to start again rather than upgrade. It simply isn't possible to sensibly upgrade the A500 to the level of specification you require.

As you don't own an A1200, I think your best bet would be to shop around for a second-hand A4000 system. There are actually a few of these about if you keep your eyes open, and if the A4000 you find doesn't already have a 68040 it can soon be upgraded to this level, or even a 68060.

PowerPC-only cards are promised for the A4000 and will probably be cheaper than versions for the A1200. A4000s can also use 3.5" IDE hard drives with no hassle, so 2Gb of drive space is both affordable and easy.

Eyetech sell an IDE Zip drive, so that's the storage taken care of. The A4000 can be upgraded to the latest version of the operating system available.

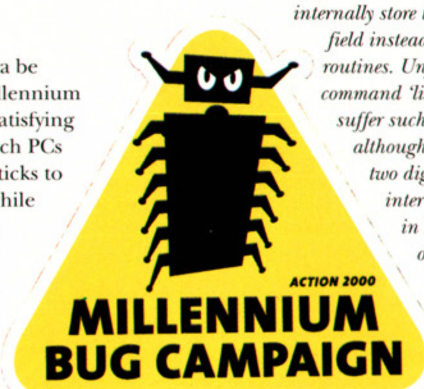
BUG 2000

How will the Amiga be affected by the Millennium Bug? It would be satisfying to sit back and watch PCs crash as the clock ticks to 1st January 2000 while Amigans continue unaffected.

If we are affected, what are the possible solutions to the problem?

Also, I have treated my Amiga to various upgrades in the four years I've had it, one of which was a SCSI Zip drive. I will soon be obtaining a PC for work-related matters (the Amiga stays, no question about that!) but will the PC be able to read Amiga-formatted Zip disks and vice versa? Is there anything I need to do, such as changing the DOS driver to PC0: to read PC Zips?

Derick Norman
Shrewsbury



Your Amiga itself shouldn't be bothered by the Millennium. Its clock can happily cope with dates for nearly another century from now. The only problem will lie with programs that internally store the date in a two-digit field instead of using system routines. Unfortunately, the Shell command 'list' at first appears to suffer such problems, but although it only shows dates as two digits, it is using the internal four-digit version in Intuition. Check your other software and make sure it uses the proper format by testing it out by advancing your Workbench clock to after the year 2000.

It's been well publicised that the PC world may be thrown into chaos by the Millennium Bug, but what will happen to the Amiga?

INTERMITTENT IRRITATION

I have an annoying intermittent problem with my IBM 2.5" IDE hard drive on my A1200. Every now and again the hard drive decides to have a fit when I first switch the A1200 on. Instead of spinning up like it should do, it makes a strange noise like it's trying to spin up, then it goes silent before trying to spin up again. This cycle usually continues for around 5-10 seconds.

Sometimes the drive will eventually spin up and I have no further problems from it, no matter how long the A1200 is on for or whatever I'm using with it. I don't think it's a power problem as I've tried an A500 power supply with the same intermittent problem. At other times the drive will make the strange noise a few times and then go silent, at which point the HD light comes on and the Kickstart animation appears. Once when this happened, instead of turning the Amiga off and back on as usual, I decided to press and hold down the reset keys and after about 15 seconds the drive span up and I had no other problems that session.

The drive is second-hand and pin 1 on the cable is cut (by me). It worked fine for over a year before these problems appeared so I don't think it's my IDE interface. I have an A1200, 328Mb HD, Blizzard 1230 IV 50MHz '030, external Zappo floppy, Squirrel SCSI interface and 2x CD-ROM.

Paul Ninnes
Weston-Super-Mare

If it used to work and now doesn't then there are two possibilities.

1. Something else has changed. Have you connected more peripherals? It's possible that the Amiga PSU you are using can't supply enough power. This would be especially true at startup, when the drive needs extra to spin up to speed. Try disconnecting items such as your external floppy drive, which you probably don't need anyway.

2. The hard drive is knackered. Hard drives don't last forever, especially second hand ones. It could be that its time is up. Back-up time...

WHICH HARDWARE?

I own a four-year-old A1200 and I am considering buying a hard drive. I have seen adverts for IDE, SCSI, 2.5" and 3.5" hard drives, so what is the difference and how would it affect my machine?

Also, would it be worth buying an accelerator board or just buying extra RAM? My finances are shaky but is the cheaper option best? I am considering using programs like *OctaMED Soundstudio, Imagine 2.0* and *Personal Paint 6.4.*

Scott Mackenzie

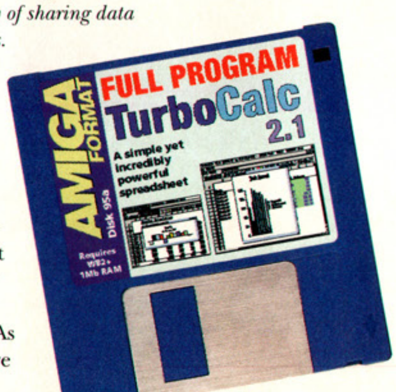
IDE and SCSI are two incompatible standards for hard drives and other devices. A drive is either one or the other. The A1200 has a built-in IDE interface. It also has a little cradle to carry a 2.5" drive. The obvious thing to do is buy a 2.5" IDE hard drive and use that. However, 2.5" hard drives tend to be expensive, slightly slower than 3.5" drives and available in smaller capacities. Many people therefore buy 3.5" IDE drives and, using guile and cunning, squeeze them into the case. Eyetech are the masters at this, so give them a call.

It's also possible to buy a SCSI interface for the Amiga and then use SCSI hard drives. It's normal to use SCSI hard drives in external cases, which pushes the price up.

An accelerator card is always a better bet and the prices have fallen to the extent that a 68030 card with 4Mb is only £30 more than a 4Mb card alone. Spend the extra £30.

To share Zip disks between the Amiga and PC you'll have to format the Zip disk in MSDOS format using CrossDos. This limits your Amiga to MSDOS format filenames, but it's still a convenient way of sharing data between the two platforms.

Use an archiving utility common to both platforms to preserve Amiga filenames.



Having problems loading the AmigaGuide for our excellent *TurboCalc 2.1* coverdisk? Here's the solution.

A1200 NEWBIE

Like many other long-term Amigans, I've just upgraded to a second-hand A1200 with a 170Mb HD and 4Mb. As a novice, I seem to have some problems.

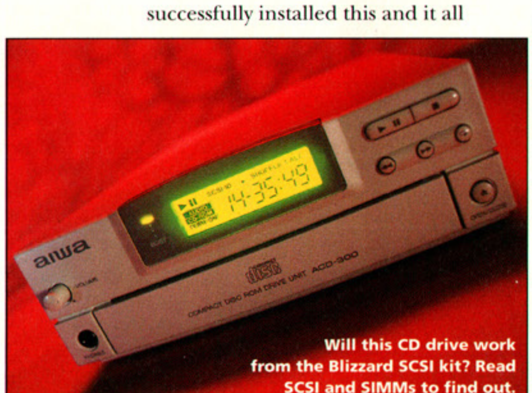
1. I have two partitions in my HD, System 3.0 and Work. DOpus 4 is loaded into Work and has an icon. When double clicked I get a window but it's empty, even when using Show All files. How do I use this software?
2. Can I load my A500 disks into my HD just by grabbing them and dropping them into Work? If not then how can I? If I cannot put them on the HD will they run from DF0:?
3. The company that developed AB20 vol 2 for the A1200 has gone out of business. Do you know if anyone has taken over as I have some questions?
4. SoftWood no longer supplies *Final Writer*, or so Harwood tell me. Does anyone else as I need a manual?
5. I have loaded *TurboCalc* from one of your covers but when I click it, it says "Cannot load your AmigaGuide" or something similar. Why?
6. I save my letters to RAM: and then copy to mydisc in DF0:. Can I just grab them from the RAM: window and drop them straight onto mydisc or do I have to open mydisc first?
7. On the sim *Flight Path 737* it says to disconnect the extra drive. Is there any way around this as it's a real pain?

Maurice P. Morel
St. Helier, Jersey

1. DOpus is a directory and file management tool. If you start it and see nothing, it must be looking to a drive or a device which doesn't exist, hence no files or directories to display. There will be a box to enter the drive name – try RAM: or Work: or System 3.0: to get started. Then refer to the DOpus documentation.
2. Yes, there is a special feature of Workbench where if you drag an entire floppy disk icon and drop it into a directory, then a new directory is created (named after the floppy) and the files are copied across. If you don't copy them to the hard drive, they work from the floppy disk as with the A500 (unless the programs aren't compatible with the A1200). Good software should include an Install routine to properly and automatically copy files from floppy to your hard drive.
3. I'm afraid I don't even know what an AB20 vol 2 is, so I'm not much help there.
4. It's a terrible shame if Final Writer *isn't being distributed in the UK anymore. Hopefully a company such as Epic will take it up and distribute it.*
5. AmigaGuide is the reader program for the help files. If you examine the tooltypes of the icon you have clicked then you should see a reference to it. It's possible that your system doesn't have AmigaGuide in the same location as mentioned in the tooltype, so either change the tooltype or copy the AmigaGuide program to the right location.
6. It would be more sensible to save them directly to the floppy disk rather than the RAM disk. In fact, now you have a hard drive, save the letters there instead. Yes, you can drag the files and drop them, but why not make use of the file requestor in your word processor instead?
7. Sorry, but the program must be pretty old, if not positively ancient, if it is worried about an extra drive. It might also say that because it was worried about the amount of memory available. Try it with the drive attached.

SCSI AND SIMMS

I have recently purchased a Blizzard 1260 accelerator with SCSI kit on which is mounted 32Mb of RAM. I have successfully installed this and it all



Will this CD drive work from the Blizzard SCSI kit? Read SCSI and SIMMs to find out.

Continued overleaf ➡

Feedback

Maybe you've had the same problems as some of our other readers, and maybe you've found your own cunning solution. If so, why not write in and tell us what it was? Send your suggestions to: Feedback • Amiga Format • 30 Monmouth Street • Bath • Somerset • BA1 2BW.

STRIPTEASER

I refer to the letter sent in by Peter Robinson (*AF107*) called The Thick Black Line. He should do this: Move DBLPAL, PAL and VGAONLY from System/Storage to System/Devs/Monitors. He may have to do a soft reset now, I'm not sure.

Go to System/Prefs and double click the Overscan Icon. Click on PAL in Monitor Types, then on text edit. He should now press in the overscan button on the front of his Commodore 1942 monitor and never touch it again. In other words, leave it in overscan for all screen modes.

Now he should be able to set up a PAL screen by using a combination of the handles displayed on the screen and the monitor controls. Once PAL is set he should click OK and proceed to set up DBLPAL. He should not have to touch the monitor controls in order to set up DBLPAL if he has set up PAL correctly first.

Using the above method with WB3 left me with a 6mm black strip on the right side of the screen, but with WB3.1 I can get rid of the strip completely.

Frank Hodges
Bodmin

PCMCIA PORT PROBLEM PORKER

I too had problems with my PCMCIA port as two of the pins were bent beyond repair. Rather than repairing the pins or replacing the motherboard as you recently suggested , there is another way.

Buy a replacement socket from RS Components, part number 374-806. This is under five quid and is exactly the same as the one fitted to the A1200. The hard part is to get an expert circuit board solderer to de-solder the old one and fit the replacement. There are 68 pins so don't try it yourself unless you have the proper equipment and know-how.

Before testing it, check the holes on the card you are plugging into it with a magnifying glass. Some of them may be burred or blocked and this can be fixed by picking at them with a pin. It is important to sort out the card or you could damage the socket again.

Andy Cunningham
Staines

works well, but could you answer the following questions?

1. Can I use the SCSI connector in conjunction with the Squirrel interface which I already have connected or will they clash? I have my Aiwa ACD-300 CD-ROM drive and a Zip drive on the Squirrel at present, IDs 3 and 5 respectively. I disconnected the Squirrel to test the other SCSI connector with a Gasteiner external hard drive which has the ID set at 2. Would the A1200 work alright and recognise both SCSIs as the IDs do not clash?

I know you will ask me why I should need to use both SCSIs when either will support up to seven peripherals and I only have three! It's just a theoretical question and until I get a new cable to connect the CD-ROM to the new SCSI connector I don't wish to harm my Amiga. I would be interested to know if both these SCSIs can work in tandem.

2. Prior to buying the Blizzard 1260 my expansion was an old DKB 1202 board with 8Mb of SIMMs on board which, obviously, occasionally clashed with the memory locations of the PCMCIA slot as it wasn't compatible.

I have tried putting these same SIMMs onto the Blizzard board as they are single sided and compatible to the best of my knowledge. They are Toshiba 70ns SIMMs. When in use, however, Sysinfo only showed total memory as 35.5Mb instead of the expected 40Mb.

It showed 32Mb without them, which is correct for the SIMMs mounted on the SCSI kit board, and it showed 8Mb for the previous board which I have used quite happily for the past four years. Can you offer any explanation for this apparent loss of 4.5Mb of memory?

Frank Coward
Burnley

1. Yes, you can use more than one SCSI interface. You can use as many as you like and the Amiga's advanced device driver system will work perfectly. Just be careful you don't overload the power supply by trying to power your SCSI drives from the Amiga PSU.

2. The SIMMs aren't compatible. Most SIMMs are actually double-sided and so they are only working to half their ability. It's probably not a good idea to keep using them in that manner.

Workbench

10 things to do when:

You need more memory.

1. Forget the fancy screen backdrop. Yes, your high resolution, 256-colour picture of Joanne Guest is very tasteful, but it's also eating up all your chip RAM and slowing your system to a crawl. Jettison it and buy a copy of *The Sun* instead.
2. Reduce your Workbench resolution and colour depth. A Workbench with more than 16 colours is usually unnecessary. Even if you aren't displaying backdrop pictures, the memory is still used.
3. Shut down Workbench when using an application. Many programs allow you to switch off the Workbench, thus saving precious memory. When you quit the application, the Workbench comes back.
4. Don't use RAD:. RAD will gobble up memory and won't budge until you switch off – a warm reset won't do. If you need a recoverable RAM disk, use one of the clever versions which shrink and expand as you need them.
5. Get a graphics card. These allow the screen data to exist in fast memory instead of chip/graphics memory. It's usually the chip memory which goes first, so look after it.
6. Use Virtual Memory. There are programs around which allow you to use your hard drive as memory. This can work extremely well with some applications and makes it possible to do otherwise impossible things. However, there are drawbacks.
7. Prune your Envarc: files. Are there still references to programs which have been deleted? They are copied to ENV: in the RAM disk at start up time, so nuke 'em.
8. Watch the number of utility programs and commodities you have running. Do you really need them all? Many separate programs can often be replaced by one smaller, multi-purpose utility.
9. Close down unused applications. If you are making the most of your multitasking and suddenly run out of memory, shut down any applications you don't currently need. This will often free up some memory, allowing you to finish what you are doing.
10. Buy some. Memory is cheap compared to a few years ago. An Amiga with 4Mb of extra memory is so much quicker, and an 8Mb or 16Mb SIMM won't break the bank.

WIRED

I am looking to get on the web in a month or so and I am writing to see what hardware and software I would need in order to get up and running.

1. If I get a modem and a web browser (like VoyagerNG) what else would I need? I would like to browse the web pages and download data, send emails and faxes and go on the IRC.



The modem is obviously essential for getting online – check out our roundup of the best of the bunch in the last issue (*AF108*).

2. Do you recommend a 56k modem or is there no significant increase in speed from a 33k modem?
3. How do I go about finding a local ISP, as in local to my area?
4. After connecting with an ISP can you go to any web sites, for example Aminet and other sites on different ISPs like PIPEX and Compuserve sites?
5. Can Amigas support and run multisession CD-ROMs and, if so, is it through software?
6. Can scanners really scan at a resolution of 4800 x 4800 dpi in 30-bit?
7. How fast in PC terms is an A1200 with the PPC 603 cards?
8. Are the PowerPC boards benchmarked against non-Intel PCs, so they'll appear faster (as suggested by a PC owner)?
9. Does the Amiga support every scanner on the market like Primax and Mustek?
10. With a CD writer, can you make a CD from a tape source (analogue) so you have a music CD playable in any CD player?

James Black
Wembley

1. The modem is obviously the key component, but software is slightly more tricky. You have the Web browsing sussed, but you then need a client for each of the facilities you want: an email program, a newsreader, an IRC client and so on. You also need a utility to provide support for TCP/IP and manage dialling up your Internet Service Provider – Miami is powerful and easy to use. Raid your favourite public domain library for all this software. As for faxes, that's nothing to do with the Internet as you only need a program such as GP Fax *from Wizard Developments.*

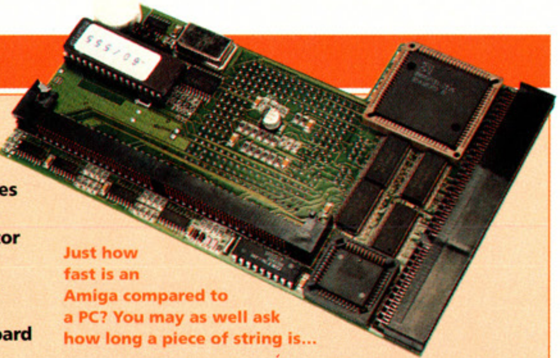
2. I would settle for a 33.6k modem. 56k modem technology is still sorting itself out and performance depends on factors such as your local exchange and your choice of ISP.

Of course, the price difference is pretty negligible between 33.6k and 56k modems, and the 56k one will work perfectly well at slower speeds.

3. Depends what you mean by "local". Every ISP offers local call access, so in that respect it doesn't matter which one you pick. However, if you want to support your local economy, have a look through your Yellow Pages. I'd suggest that an ISP which didn't say "Omega what?" when you telephoned them would be a better selection procedure.

4. Once connected to the Internet you can reach any other site which is on the Internet.

I HAVE THE POWER!



Just how fast is an Amiga compared to a PC? You may as well ask how long a piece of string is...

1. What is the best way to get a large screen/smaller icons? Using HiRes with two windows open leaves the screen full. Using HiRes Interlaced is better but flickery. Super HiRes makes the icons/text too narrow. Would a multisync monitor cure it or would a VGA adaptor and VGA/SVGA monitor be better?

2. I'm considering buying an accelerator board, possibly an '030, 50MHz with 8Mb. Do I buy a Blizzard/Apollo/Magnum or would a PowerPC board give the same results ('030/50 wise) but be far superior when software comes along?

I would appreciate your comments and suggestions, hopefully not including Zorro slots and lots of other exciting but quite expensive add-on boards.

P.L. Wilson
Liverpool

1. If you can find a compatible SVGA monitor, or preferably a compatible multisync, you can run your Amiga in a mode such as Productivity which offers something close to the dimensions of an Interlaced mode but with practically no flicker.

If I can't answer the question without referring to Zorro slots, them I'm afraid I don't have anything else to say.

2. Obviously a PowerPC card would be faster. It's many times faster than a 68060, so it's going to beat a 68030 into the ground. However, the question is what are you going to run on it? In an ideal world all your favourite software would be ported to the PowerPC, with Workbench too.

However, that's not going to happen. If we are lucky, the major software products will come out in PowerPC versions and some of Workbench will be re-written. Also remember that a PowerPC card requires a 68030 present in order to work. At the moment you don't have the choice about whether to buy a PowerPC card anyway.

For example, no matter which ISP you use, you can still visit my homepages on Virgin Net. What you cannot do is access information which is held locally by Compuserve, which has it's own closed conferences that you can only access if you are a member of Compuserve.

5. Yes, Amiga's can cope with multisession CD-ROMs. The ability to read a multisession disc, which is a disc that has information recorded on it in several goes, is a combination of the drive and the driver software. All recent CD-ROM drives support multisession reading and Amiga driver software can cope too.

6. No, at least not the scanners priced for home and office use. What they can do is "interpolate" the scanned data (usually scanned at 300 to 600 dots per inch) to try to guess what the image would look like at that resolution.

7. How would you tell? In terms of raw processing power, I'd say somewhere between a P130 and a P200. I'm sure someone will write in with a definitive answer, although I'm not convinced it would mean much until the software appears.

8. I haven't seen any benchmarks and especially none using comparable software. If the benchmark depends on the processor then it's not much of a benchmark, is it?

9. The Amiga supports all the scanners which someone has written a driver for. Unlike the PC world, there is no universal TWAIN interface support. In other words, find your software first and then on that basis select a scanner.

10. Yes, you can. You just need to sample the music, convert it into a suitable format such as 16-bit, 44.1KHz stereo, and then you use the CD-R software to burn the disk in Audio CD format. AF

TOO FAST?

1. I own an Amiga 1200 with a Blizzard 1220 and an Amiga M1438S monitor. I would like to buy a CD-ROM drive but I don't know which one to go for. Would a 16-speed be too fast when I only have a Blizzard 1220?

2. I have downloaded the startmenu from the Internet but I can't install it. When I click on the install icon the computer says "Unable to open tool". What should I do?

3. Does the PowerPC card fit in the Amiga?

4. Is there a good future for the Amiga in 1998?

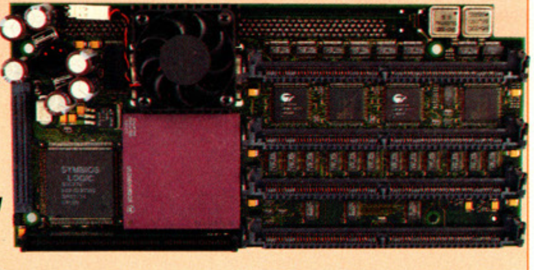
Lasse Petersen
Denmark

1. You can never have too fast! I find that a quad speed drive suits me, but it's probably impossible to get any that speed these days. You shouldn't have any problems with a 16-speed drive – it's still slower than a decent hard drive.

2. The program is probably failing to find the Installer utility. Check to see if you have it on your system and, if so, adjust the tooltype to point to the new location. If you don't have it, search through your software collection and you are bound to find some program which uses it. Alternatively, download it from the Internet.

3. Yes, not much point otherwise...

4. The Amiga has new owners, there are new Amigas in development. New C++ compilers have appeared, and new hardware is promised. And we're still here!



Will it fit in an Amiga? Of course, but this one'll only fit if you've got an A4000. You'll need a Blizzard PPC for your A1200, if that's what you've got.

IF YOU HAVE A QUERY...

At *Amiga Format* we aim to answer as many questions as possible. Unlike some magazines, we don't just concentrate on our areas of expertise – we take on all your problems (as long as an Amiga is involved).



John Kennedy

Here are a few tips on sending in questions:

- Be concise.
- Detail the problem as best as you can.
- Describe the events that caused the problem.
- Give full details of your equipment.
- Make sure your question is relevant and wouldn't be more easily solved by contacting the dealer from whom you bought the goods.

Bear these points in mind and fill in, photocopy, or copy the form below as best you can. Unfortunately we cannot reply personally.

Send your letters to Workbench, *Amiga Format*, 30 Monmouth Street, Bath, Avon BA1 2BW.

Your Amiga:

○ A500 ○ A500 Plus ○ A600
○ A1000 ○ A1200 ○ A1500
○ A2000 ○ A3000 ○ A4000

Kickstart version

○ 1.2 ○ 1.3 ○ 2.x ○ 3.x

Hard Disk: .... Mb

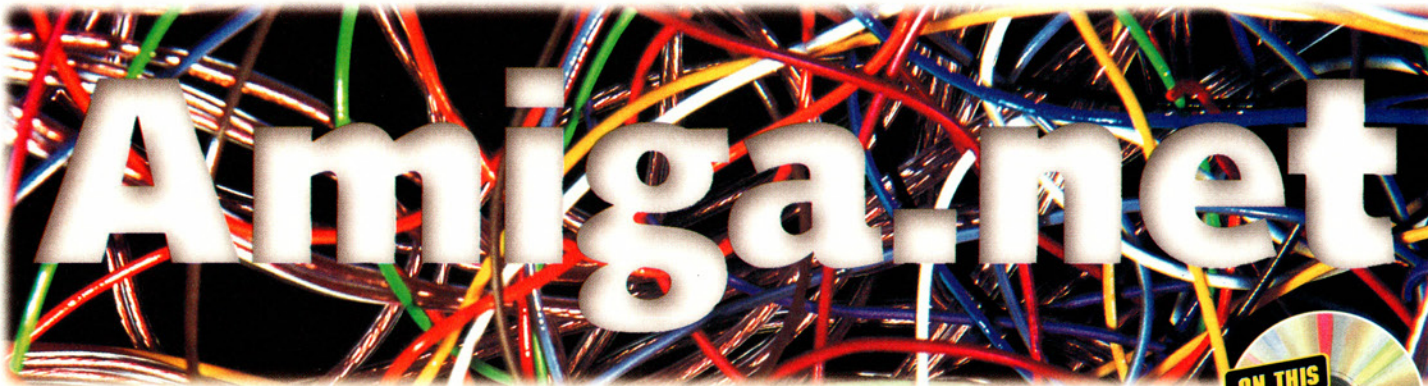
Manufacturer: ....

Extra RAM fitted – type, size, (Mb) and manufacturer:

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Details of other hardware:

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Amiga.net



AFCD25:-In_the_Mag-/Amiga.net

Dave Cusick investigates a surfer's relationship with his Internet Service Provider.

CONTACT POINT

If you have any comments, questions or suggestions, you can contact me at dave@dcus.demon.co.uk. One man who did just that is Stephen Chandler, whose thought-provoking email inspired this article.

Internet software in general is far more user friendly than it was even a couple of years ago. When I first began dabbling with the Internet during early 1995, primitive text-based programs ruled – these were the days of AmigaNOS, Tin and Lynx.

At times there was very little to shield the user from the technical operations the machine was performing. This, coupled with the complexity of actually getting onto the Internet, meant that most users would have had a fairly good idea of the implications of, say, entering a URL.

Nowadays, when a user types a URL into Voyager or Ibrowse and hits Enter, considerations of exactly what he is doing probably do not even enter his mind. Using a TraceRoute program, however, it is possible to discover exactly how bits of information are taken from one computer to a remote machine on the other side of the world.

If I enter the URL for Boardwatch.com, a message is sent from my machine down my telephone line to my Internet Service Provider, Demon Internet. There it is shuffled around several different machines before being shot across the Atlantic via Demon's 45Mb/s DS3 line to the United States. Then it is bounced around a few more machines until it reaches New York, routed through computers in Cleveland, Chicago and Denver, then sent through four more cryptically-named machines in the Denver area before it finally reaches Boardwatch. In total, my request has passed through 16 different machines, all in a matter of milliseconds.

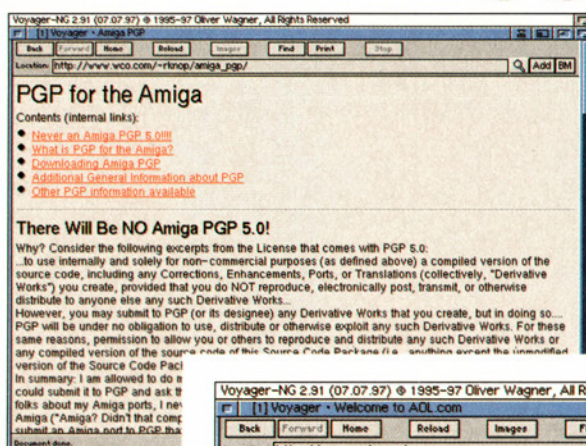
The complicated journey my request has made arises because of the way in which the Internet was originally designed. The Internet is a network of packet-based networks. Data from my machine, be it a request for a Web page, confirmation of having received something, direct instructions for a remote telnet host or whatever, is broken into packets, each marked with the IP address of their destination.

Routers send that information on its way. Whereas in older single-router network systems, if a router went down the whole network would fall over, with the Internet if a single router fails there are other routers that can do the job.

> Unlike everyone except your closest friends in Cyberspace, your ISP knows exactly who you really are.

That's the theory at least. Although once upon a time all packet routers would have known exactly where each address was, nowadays there are so many individual IP addresses out there that not every machine knows exactly where a packet of data is going. That machine will therefore pass it on to another router which does know exactly where the eventual destination is.

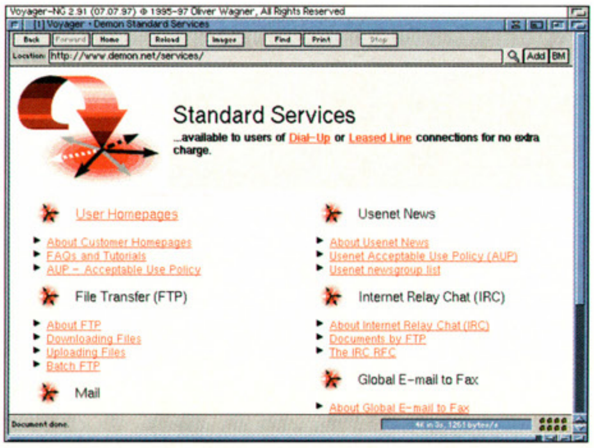
Fortunately, as a dial-up customer you don't have to worry too much about what happens to your data while it's in transit. It isn't going to be examined by anyone, not least because the packets which comprise, for example, an email from you to a friend in Canada may not all be sent to their eventual destination via the same route. Packet-based networking, of course, was developed by the US Advanced Research Projects



It might not be much to look at, but if you're worried about the security of your email then you'd do well to take a look at the Amiga PGP page.



America OnLine – it's big, it's powerful, and it (allegedly) violates your privacy.



Demon Internet, my ISP. Demon's Malcolm Muir told me: "Confidentiality is never broken without cause."

Agency, whose ARPAnet was the precursor of the Internet.

Now a brief history lesson. Although the term Internet was in use as early as 1983, the Internet as we know it began around 1985, with five US university supercomputers linked by a 56kps connection. Within two years, 13 institutions across America were linked via a 1.5Mbps line. By 1989, a 45Mbps T3 backbone supported 16 sites, with around 3,500 networks connected through them. After four or five years, the appearance of Internet Service Providers (ISPs) was to radically alter the Internet.

Because your ISP provides a gateway between your home computer and the Internet, everything you send to and receive from a remote machine passes through your ISP. Theoretically, therefore, your provider could quite easily monitor what you email, find out which Web sites you've been visiting and even identify your IRC haunts.

Such an invasion of privacy might involve a detailed examination of log files and a concerted effort on behalf of the individual employee concerned. As one Usenet post put it, providers "could read [your email], but lacking some important reason, they just don't have time for that," but it is nevertheless theoretically possible.

In practice, of course, the ISPs maintain that no effort is made to monitor the activities of customers.

Susan Christie, Sales and Marketing Manager of Zetnet, told me that their technical department take no notice whatsoever of what their customers are up to as "they're either too busy on the phone with customers and their queries or playing with the flight simulators on their computers."

Indeed, in general I'm sure that technical staff take little interest in what individual users are doing, unless they receive reports that someone is breaking the terms of their service contract, perhaps by spamming people or by posting obscene material in inappropriate places. In these cases, careful monitoring could take place.

That said, as influential Net writer Esther Dyson told me: "There are probably rogue employees who break their company's rules and read customers' email – though they could be fired for doing so." She recommends encrypting your messages if you are genuinely concerned about secrecy.

Being able to read your email isn't the only conceivable invasion of your privacy which an unscrupulous ISP could commit. Unlike everyone except your closest friends in Cyberspace, your ISP knows exactly who you really are.

> *There are probably rogue employees who break their company's rules and read customers' email...*

While providers generally protect the identity of their consumers, there are circumstances in which they may be prepared to reveal your details to certain people. This is understandable in certain instances, such as if a court asked for this information in relation to civil or criminal proceedings. In some cases, it seems, an element of compulsion is not necessarily required.

The US Navy suspected sailor Timothy McVeigh had revealed his homosexuality, something the US military forbids, in his America OnLine profile. A Navy investigator telephoned AOL, who confirmed that the owner of a particular screen name was McVeigh.

American commentators who have read the transcript say that the AOL staff member violated the company's policy not to release customers' personal information unless compelled to do so by a court order or search warrant. The Navy may also have violated the US Electronic Communications Privacy Act.

Esther Dyson points out that AOL does "share" some information about its customers with "carefully selected partners." Fortunately, there are probably no Amiga netizens out there who access the Internet through AOL and besides, under the Data Protection Act of 1984, companies in Britain must obtain the express permission of each customer before passing details on to other companies for use in mailing lists.

Dyson says that: "Individuals' privacy should be respected, but in reality individuals must take measures to protect themselves, in proportion to the importance of their secrets."

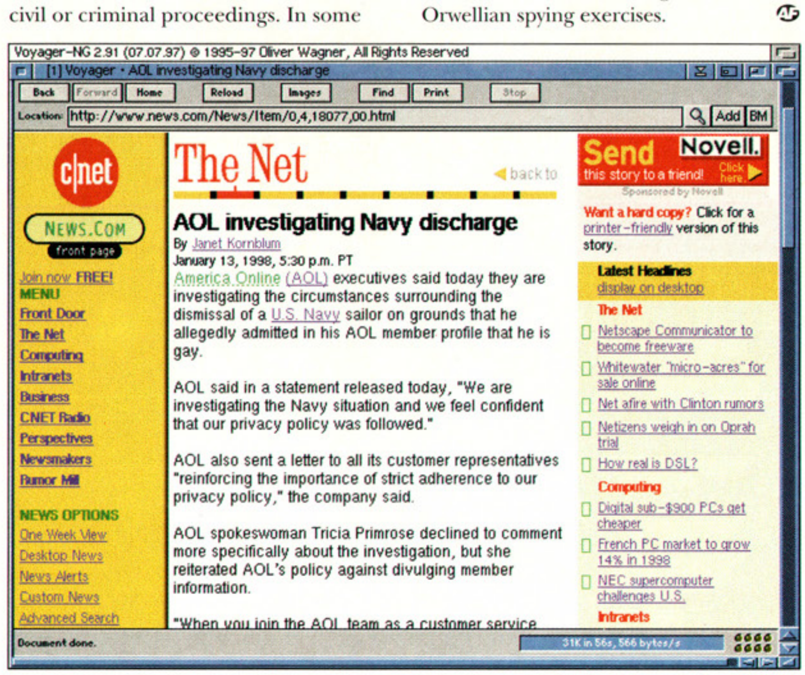
If you're concerned your email is being read, get a piece of software called Pretty Good Privacy and encrypt your messages. You can download it from: http://www.wco.com/~rknop/amiga_pgp/

If you think that your surfing habits are being monitored then you should switch service providers.

However, there is currently a lot of paranoia surrounding Net security and, unless they have extremely strong grounds for believing you are abusing your access privileges, most ISPs would never dream of conducting such Orwellian spying exercises.

The Electronic Frontier Foundation, (http://www.eff.org/) of which Esther Dyson is a key member, plays a vital role in raising many issues surrounding our use of the Internet, including privacy.





You can follow the full Timothy McVeigh story at CNet's News.com at http://www.news.com



The indispensable guide to getting the most out of your software

We left you last month with the final instalments of a lot of our tutorials. Never fear though, there are plenty more where that came from. This month sees the beginning of a brand new C programming series.

If you want to program the Amiga, it is certainly worth learning C, and we are going to make it easy for you. There is a C compiler to suit every pocket, including some which are completely freeware, so you have no excuse.

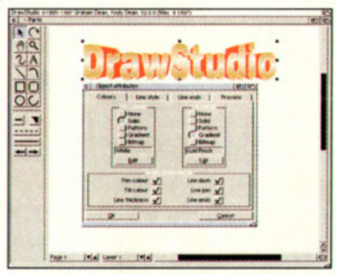
We have another new tutorial this month, in the shape of Simon Goodwin's "Under the Bonnet".

Over the coming months he will be explaining just what is going on inside your Amiga and how to tweak your system to get the most out of it. I hope you agree that these are very exciting looking projects.

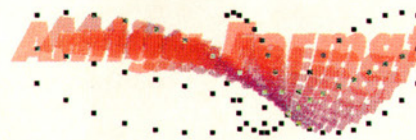


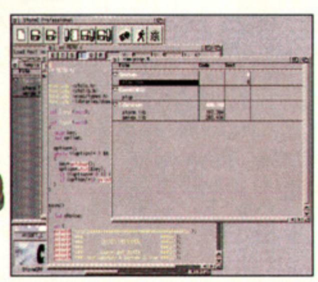
Nick Veitch

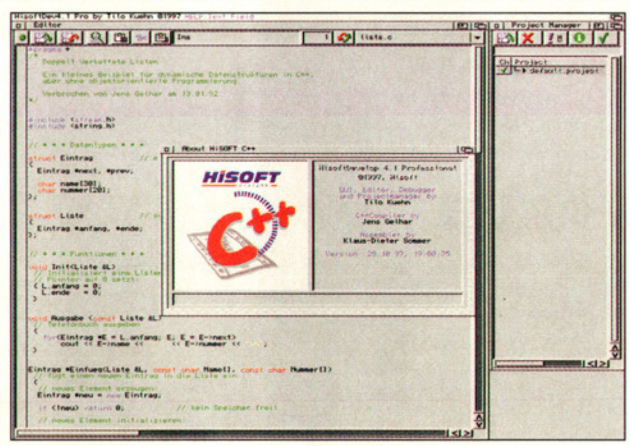




A spiral text effect is simple to create with the cloning tool.



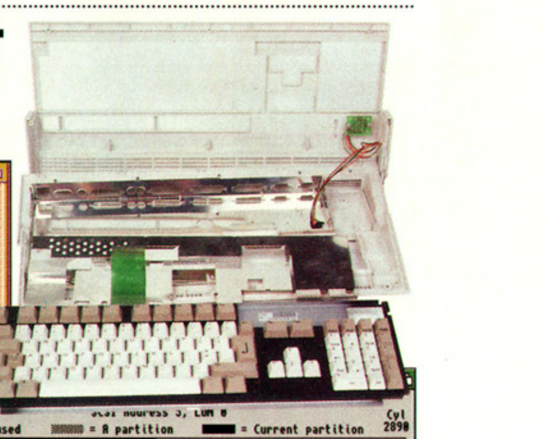




In the world of programming, the only choice is the deep blue C. It isn't as difficult as you thought, as you will be finding out.



A startup manager can help you to keep tabs on just what you are actually running.





SEND IT IN!

WE NEED YOUR INPUT.

Is there something that you would like to see covered in one of the current tutorial series? Why not send your suggestion to us at the magazine. Here are some things you might like to think about:

PROGRAMMING

Is there a language you can't get to grips with? Or maybe you want to know how to do a specific thing n C or ARexx? You might never find the answer unless you write in and tell us about it!

PAINT PACKAGES

Unsure of how to get a particular effect? Do you think there must be an easier way? Our experts could help.

DRAWSTUDIO

Is there something you desperately want to be able to draw? Drop us a line! Contact us at:

AF Creative • 30 Monmouth Street
Bath • Somerset BA1 2BW
Or email: amformat@futurenet.co.uk
putting "Creative" in the subject line.

DrawStudio

In the final instalment of this series, **Larry Hickmott** helps you to see double with a guide to using ***DrawStudio's*** versatile duplication tool.

Contents

If going around in circles is something you enjoy and fading to grey is not just a sign of old age, then in this final instalment of the *DrawStudio* tutorials we've got a multiple treat for you. Just in case you have no idea what I'm talking about, let me clarify things by telling you about *DrawStudio* cloning, and this is no yarn about strange sheep either.

> **"The simplest method of making copies is to use the Clone command. Cloning pictures of sheep is optional."**

Making copies of an object may not sound like a feature that has a lot to offer when it comes to creativity, but duplication in *DrawStudio* is a cut above the rest while also being fun to use. Unlike most programs, *DrawStudio* gives you two bites of the cherry when it comes to creating a copy of an object.

The simplest method of making copies is to use the Clone command. Cloning pictures of sheep is optional. The clone tool simply creates an exact copy of the selected object or objects, so what I want to show you is the Duplicate tool, which resides in the Edit menu or which can be accessed using the keyboard short-cut of Right Amiga-D.

Before you rush for your keyboards, let me point out that before you select the Duplicate command you must have an element selected. If you try to use Duplicate without clicking on an object first, you'll get a prompt complaining that no object is selected.

Once you have selected an object, and the duplicate tool will work with any type of object including bitmaps, text and structured elements, then you can perform various operations.

Duplicate lets you make multiple copies, move the duplicates up and down the page, scale objects bigger or smaller and rotate the copies as well as fading both pen and fill colours across all of the copies created.

With so many options at your disposal you can spend hours and hours coming up with different configurations to create new and exciting effects. My only tip here is to use a screen grabber to take a picture of the Duplicate requestor each time you use it to create a picture. Keep the grab along with the picture created so you have a record of which configuration does what.

Just remember that the last group of settings used will be stored during the current session, so if it doesn't work out you can simply select Undo and start again from where you left off.

That just leaves me time to wish you all the best in using this great package. If you still haven't purchased it, give me a call on 01908 370 230 and we'll have a copy to you in next to no time!

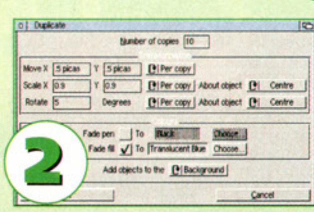


SPIRAL TEXT

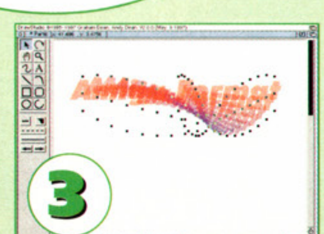
To create some spiral text like the example here, follow these steps.



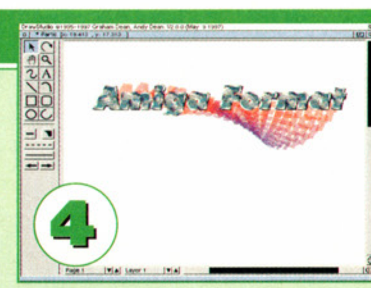
1. Create some text on your page and choose "Convert to Bezier" from the Object menu. Keep the text short and simple as well as big and bold. I've used a transparent fill.



2. With the text selected, choose the Duplicate tool. Take a look at my settings here and enter them into your own requestor. Notice that a number of the cycle gadgets are set to "Per Copy". When finished, click OK.



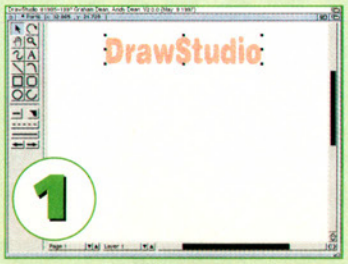
3. This is the result. Having used a transparent fill, the overlapping of the objects creates an interesting effect, but hold on to your hats because we're not finished yet.



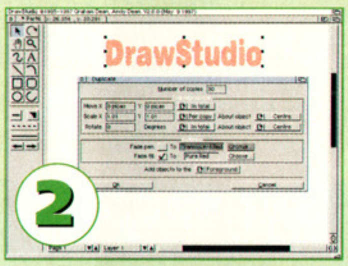
4. Click on the page to deselect all the objects and then select the original piece of text. Now apply some new attributes to that text. In my example I have used a cloud bitmap fill with a gradient for a line fill. To set it off from the rest of the duplicates I added a black drop shadow. Around two minutes work in all, and with some further experimentation new and more exciting examples could be created.

CREATING 3D EFFECTS

To create text that comes at you like a speeding bullet, look at this example.



1. Start with a clean canvas and create some text. Convert the text to a bezier in case you want to add a line weight. Give the text a fill.



2. Now choose the settings for the duplication. In this one, all I've done is add a little bit of positive scale to enlarge the original and also changed the colour so it fades from a transparent red to a solid red. The duplicates are also added to the foreground. The result doesn't look like much, but in step 3...



3. Click on the top layer of the text and change the fill and pen colour to get a result like this. As always, experiment and take your time to get a result of your own making.



"About Object" is set to Right.



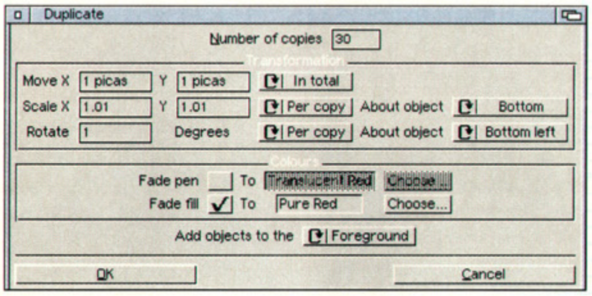
"About Object" is set to Bottom Left.



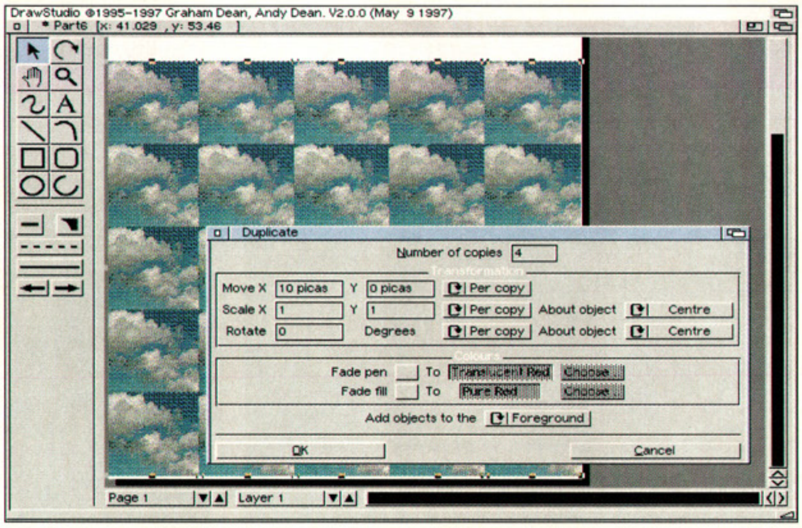
"About Object" is set to Bottom.

Here are some examples of how just by changing one setting on the "About Object" cycle gadget in the same row as the Scale gadgets, you can vary the results. In each case I've changed the final layer to make it stand out from the rest of the duplicates. The differences are subtle so look quite carefully.





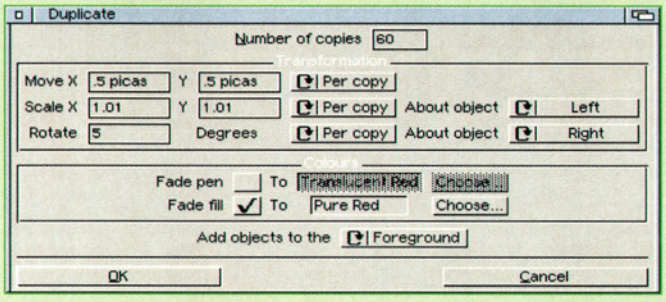
Type in the attributes in this Duplicate requestor and this is the result you will get.



The duplicate function can be used for tiling pictures, as we see here. In one action I duplicated the picture vertically, and then in a second task horizontally, to create this tiled image. With a little more imagination, something useful could be created!

THE DUPLICATE REQUESTOR

There are a number of actions you can perform using the Duplicate requestor. These include the following:



COPIES: Enter as many copies as you like into this text gadget.

MOVE: This lets you move each copy horizontally and vertically, independent of each other. You have the choice of entering a figure for each copy to move or a figure to cover all copies. Let's say you have a box 10mm wide and you want to tile it across the page four times. You could enter either 10mm "per copy" or 40mm "In Total".

SCALE: You have the choice of scaling objects horizontally or vertically, independent of each other. The degree of scale can be Per Copy or a figure to cover all copies (In Total). You also have an About Object menu to select the point around which the scaling is performed.

ROTATE: Like the others, this figure can be applied Per Copy or as a total for all of the copies. The point of rotation can be selected from the About Object menu.

FADE PEN: The check box lets you turn this function on while the Choose button displays a requestor for you to choose the colour you want the pen colour to fade to.

FADE FILL: The check box lets you turn this function on while the Choose button displays a requestor for you to choose the colour you want the fill colour to fade to.

ADD OBJECTS TO THE: Options are Foreground or Background. This is useful because you can work out which is going to look better, the objects being layered on top of the original or behind it, and then choose the appropriate attribute.

C for Yourself

The first tutorial in this series designed to explain everything about **C**, presented by John Kennedy.

Contents

Back in the old days, home computers came with built-in programming languages, usually BASIC. These days, home computers and "real" computers are now one and the same, and instead of slow, rambling BASIC implementations we now have real development tools. These tools are capable of creating anything, from a game to a state-of-the-art application to an embedded operating system.

Learning C on the Amiga means two different things. First of all, it means learning how to program in C.

C isn't particularly hard to use. It has a very small number of instructions (about 30 or so), and once you learn a few tricks then it's quite logical and straightforward. It's also possible to create useful programs without knowing everything there is to know first – there are always a dozen different ways of doing the same things.

The second stage is to learn how your computer works. The Amiga is a fantastic machine – underneath the calm facade of the Workbench are hundreds of processes, tasks, device drivers and libraries. To make the most of it, you'll need to know how these different elements interact. Again, the good news is that you don't need to know everything in order to get started.

Using the Amiga is made more straightforward because there are special files and libraries available, which mean it's possible to include function calls (say, to open a Window or print text) right in your own code.

HOW A C COMPILER WORKS

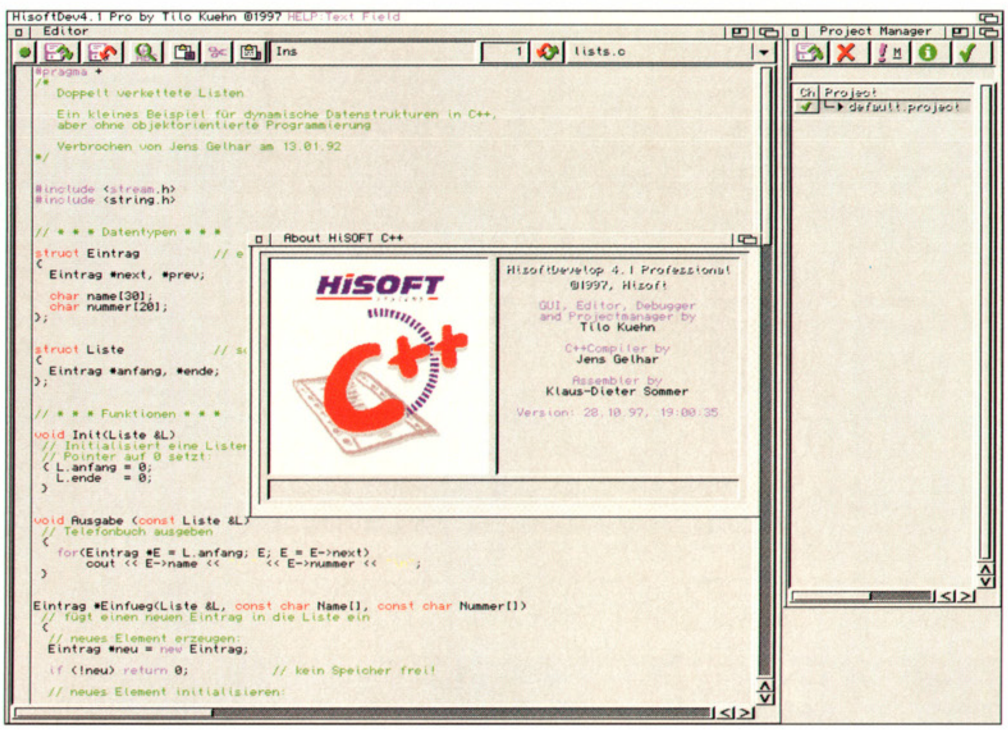
C is a programming language, designed to be read by humans. For that reason it has English-sounding words rather than lists of hex digits. These words (which are referred to as Source Code) are entered into a plain text file by the programmer and saved to disk, usually with an extension such as ".c", so your program might be called "example1.c".

As you know, computers are pretty stupid and they can't simply look at the C source, decide it is a program and then run it. First the Source Code must be compiled. Unlike ARexx, which is interpreted line by line as the program is executed, the entire C Source Code must be converted into a more machine readable format before use.

During this process the C Compiler will spot typing mistakes and grammatical errors like a missing bracket, or an "else" with no "if", and will stop, providing error messages for the programmer. A lot of time in program development is spent by the programmer waiting for these error messages to appear, editing the Source Code to fix them and then trying again.

Depending on the particular compiler, it may finish with a ready-to-run program, although most of the time it will create an Object file first.

Some C systems, especially the free



HiSoft's C/C++ compiler has an excellent front end with an integral text editor.

Top Tip

If you do intend to get serious about programming the Amiga then start looking for the Rom Kernal Manuals now. These are the official books containing details on using the Amiga's operating system. Make sure you get the third edition grey ones – if you can only get one, get the Libraries volume. It's published by Addison-Wesley, ISBN 0-201-56774-1. Alternatively, get the Official Developer CD-ROM which contains the same information and listings in a format you can use. If you can track down a good reference book on C/C++ as well, it will make your life even easier. I recommend anything written by Herbert Schildt. If you're on the net, try looking at http://www.amazon.com.

or low cost ones, actually create an Assembly Language file at this point, an ".asm" file which needs one further step of Assembling .

The Object Code is a kind of half-way house between the Source Code and the finished program, and there is a final step of Linking to produce the executable. During the Linking process, any final missing values not stored in the Source file are inserted into the code.

This is when any Amiga-specific functions are associated with the various libraries which do all the hard work. The libraries are blocks of code, stored both in ROM and on disk, and these allow you to create Amiga programs which look like Amiga programs, with menus, requestors, icons, windows, etc.

> *This tries to make it as easy as possible to program by providing an editor for entering Source Code...*

C++

To say C++ is based on C is a little unfair. C++ is more of an enhancement, bringing C up to date with the latest in Object Oriented programming concepts. The two languages are still very closely related – for example, a C++ compiler will usually compile C programs without complaint.

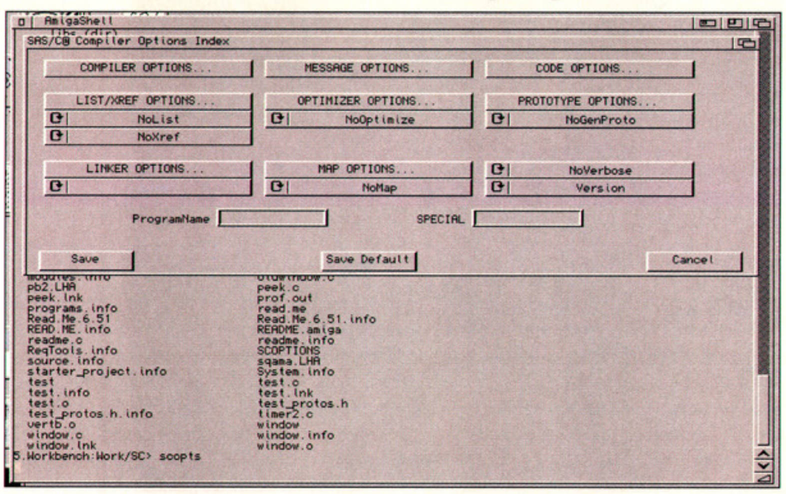
Nevertheless, there are several important additions to C++ compared to C. On a trivial note, comments in C++ can follow a single "//" rather than be nested between "/*" and "*/", and it's even possible mix them to allow one comment to comment out another, if you see what I mean.

More importantly, C++ adds Classes to C. A Class is similar to a C structure in that it describes a new format for storing data. However, a Class also contains the functions which can act on the data. Unless you say otherwise, nothing else in the program can access the data other than through these functions. This helps to make software more reliable and organised.

C++ also includes features such as Inheritance and Overloading, making it possible to have multiple functions of the same name, with different definitions depending on the type of parameters passed to them. You can also define variables where you need them, not just at the start of a function.

Classes are of particular use when dealing with complicated operating instructions such as the Amiga's. Normally opening a Window requires a lot of structure definitions and function calls. With a pre-defined Window Class, you merely have to define a new variable of type Class_Window and the C++ compiler does the rest.

If you are worried about choosing a C++ over a C compiler to get started then don't be. You can learn C and then quickly migrate to C++. Or even start straight away with C++. In either case, a C++ compiler will serve you well.



This is a rare GUI element from SASC, which is mostly used from the Shell.

After all this, Source Code compiled to Object Code linked to Executable, the program is ready to run. Now the programmer finds some more mistakes and has to go back and start again by editing the Source Code.

Yes, it's a tedious business, but the rewards are worth it. C programs are very fast and efficient and a good C compiler can often create code which even a proficient Assembly language programmer would find hard to beat.

C is also very flexible. Because of the separate stages of linking, it's possible to mix programs written in C with programs written in Assembly language. You don't need to know all the gory details above to get started, but it helps when things go wrong.

WHICH COMPILER?

The Amiga has several good C and C++ development systems available. Dice C is one of the best known and it was recently given away on an *Amiga Format* cover CD-ROM (*AF104*).

The original heavy-duty commercial product was Lattice C, which became SAS/C. Sadly, this all but ceased development and is no longer available to buy.

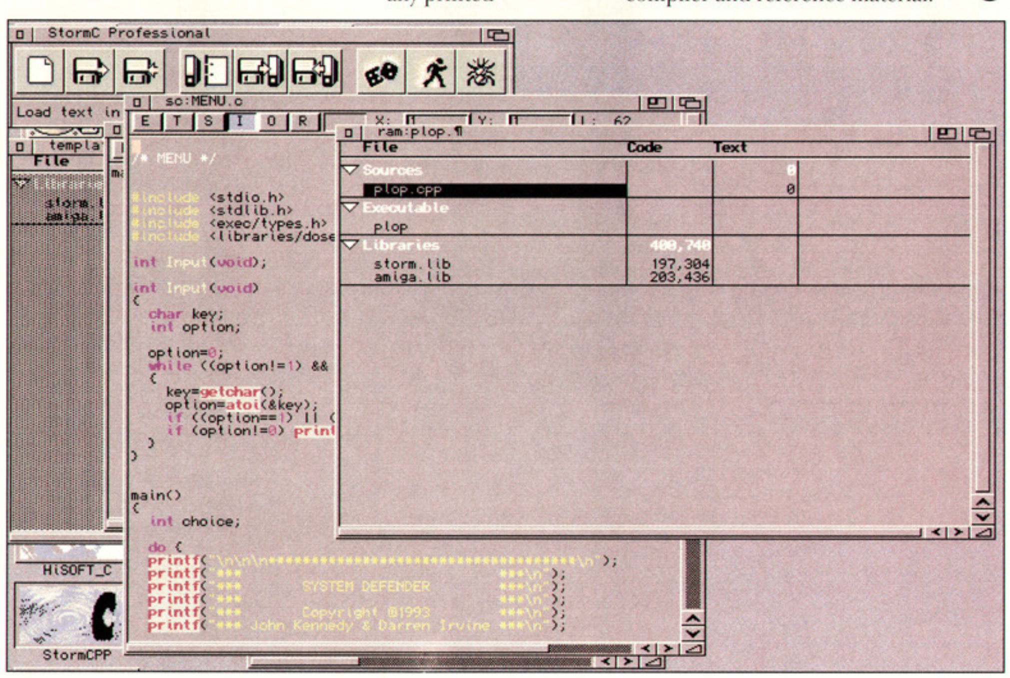
Recently two new systems appeared, StormC and HiSoft C++. StormC is unique in that it also has a plug-in module available to develop it for the PowerPC and even the pOS system.

HiSoft C is also very capable but it lacks any printed documentation, making it hard to recommend for the beginner.

The current batch of C/C++ systems all feature an IDE, or Integrated Development Environment. This tries to make it as easy as possible to program by providing an editor for entering Source Code, as well as all the controls for compiling and sometimes debugging your code. They also help to keep track of all the files generated and provide an effective way of managing your work.

Both StormC and HiSoft C++ have excellent IDEs and are a great way to get started with minimal fuss.

Next month we'll get coding for real, with a look at using a C Compiler and some simple programs. In the meantime, get yourself organised with a compiler and reference material.



Colourful StormC will automatically colour the C source to highlight keywords.



Under the Bonnet

Simon Goodwin begins a new series for advanced Amiga users with a look at startups.

Contents

Welcome to the first part of our new series dedicated to getting you the best from your Amiga. We'll be discussing matters from SCSI and IDE to file management in our eleven parts (there's only room for six in the chapter listing!) so without further ado, let's begin.

Custom startups let you configure an Amiga to make the best use of resources that may clash. You might want Picasso96 as your default, system-friendly setup, with a nice 256-colour backdrop and commodities like *ChangeScreen* to re-target graphics, but most of us have some programs which need AGA and are upset by RTG. Some may require CyberGraphX, EGS or the original *Picasso 2* software. With a bit of customisation you can run all of these.

The simplest way to implement multiple startups is to keep several complete boot partitions on your drives and select the one you want when you turn on or reset your machine. The Kickstart 2 Early Startup menu, later enhanced, lists all of the partitions.

> "Sometimes disabling whole partitions is worthwhile because it leaves more memory for applications."

EARLY START

You call the menu by holding down both mouse buttons as the computer resets. It needs a 15KHz PAL or NTSC display (toggled with the space bar) and it cannot be viewed on VGA monitors without a hardware scandoubler or flicker fixer. The menu lets you disable certain partitions or select a particular one for booting, retaining access to files on all partitions. Sometimes disabling whole partitions is worthwhile because it leaves more memory for applications.

Left to its own devices (sic) the Amiga determines its boot partition from the boot priority set with HDToolbox. Select Partition Drive then Advanced Options to see the current priority. The floppy drive, DF0: has a priority of 5. Give partitions a lower priority, -128 to 4, so that if the hard drive gets screwed up you can still override it and boot from a floppy. Data partitions are not normally bootable, lacking system directories.

Listing 1 extends the mouse menu selection, using GetMouseInput to pick alternative startup sequences if the left or right button is held down. KeyCheck and WarnIfPressed do similar things for keyboard or joypad control.

Use this script instead of your startup-sequence (renamed default-startup-sequence), to substitute StartupA or StartupB depending on the button pressed. Similar code could select actions like Kickstart remapping, soft-kicking a different version or installing patches under mouse control.

If you add a drive or want to use an alternative boot for several sessions in a row, use HDToolbox to adjust the priorities and change the default. I put one extra low-priority bootable partition on each drive so that if a crash damages the main partition then a minimal system starts, with prominent DiskSalv and backup icons.

FRESHER STARTS

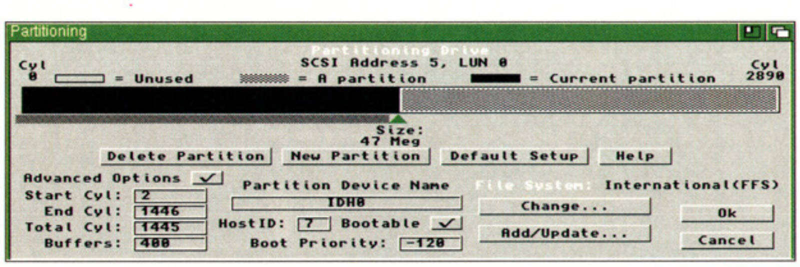
Emulator users might value a custom startup that leaves the maximum possible amount of memory in one chunk for greedy Mac or PC emulation. The same goes for other programs that demand lots of memory. Aminet's StartMem creates a temporary startup sequence that reports the amount of memory in use after each line, which is useful when tuning a startup.

Some applications need lots of chip RAM or object to certain commodities. You might want to run a CD[32] disc, which expects you to boot from the CD. This is not directly possible on an Amiga computer with Workbench 2 or 3, but you can get the same effect with custom scripting.

Listing 2 does this in five stages. It sets symbolic names for the original and replacement system drive, OLDSYS: and SYS:. The example uses CD0: as the replacement, but it could be a partition or network drive, NET:SYS.

Listing 1

```
; Example startup-sequence using GetMouseInput V1.3
; and a local variable - by Tim Jackson, freeware
GetMouseInput LOCAL
If $MouseInput EQ 1
Execute S:StartupA ; Left mouse button pressed
Else
If $MouseInput EQ 2
Execute S:StartupB ; Right mouse button pressed
Else
Execute S:NormalStartup-Sequence ; No buttons
EndIf
EndIf
UnSet MouseInput
EndCLI >NIL:
```



HDToolbox lists partition boot priority as an advanced option.

Listing 2

```
;Shell Script to (re)boot Amiga from CD0:
;for Amiga Format Under The Bonnet part 1
sys:c/assign OLDSYS: SYS:
sys:c/assign SYS: CD0:
failat 21

; First, clear all assignments
oldsys:c/assign >nil: C:
oldsys:c/assign >nil: DEVS:
oldsys:c/assign >nil: FONTS:
oldsys:c/assign >nil: L:
oldsys:c/assign >nil: LIBS:
oldsys:c/assign >nil: S:

; Then assign to CD-ROM
oldsys:c/assign >nil: C: SYS:C
oldsys:c/assign >nil: DEVS: SYS:DEVS
oldsys:c/assign >nil: FONTS: SYS:FONTS
oldsys:c/assign >nil: L: SYS:L
oldsys:c/assign >nil: LIBS: SYS:LIBS
oldsys:c/assign >nil: S: SYS:S

; Re-assign to hard disk
oldsys:c/assign >nil: C: OLDSYS:C ADD
oldsys:c/assign >nil: DEVS: OLDSYS:DEVS ADD
oldsys:c/assign >nil: FONTS: OLDSYS:FONTS ADD
oldsys:c/assign >nil: L: OLDSYS:L ADD
oldsys:c/assign >nil: LIBS: OLDSYS:LIBS ADD
oldsys:c/assign >nil: S: OLDSYS:S ADD

; Set current directory to root of CD-ROM
cd SYS:
failat 10
execute s:startup-sequence
```

Now remove the other references to the SYS: drive, set up when the machine starts. These come in two groups. Assignments inherited from Tripos have single-letter names – C:, the default for commands, S: for scripts, and L: for handlers, which interpret data from devices. The Amiga adds three more – DEVS: for devices, FONTS: and LIBS:, for library code. ASSIGN >NIL: for each removes the connection between these names and the original SYS: drive.

Now assign those names to eponymous directories on SYS:, the new system drive. This makes the new drive bootable but it's possible that some of the programs you're already running will need files from the old one. A group of ASSIGN .. ADD commands tells the system to search OLDSYS: too, if any required file isn't found on the new one.

The last few commands prepare to run the new drive's startup sequence.

Listing 3

```
; CPU identification for startup screen
; Uses SNG's PEEK_POKE, Aminet misc/cli
; Insert in startup after EXECUTE T:M
peek lib=exec 297 >env:CPU
if $CPU eq 127
PicBoot Work:Bootpic/68040_inside DETACH
else
if $CPU eq 255
PicBoot Work:Bootpic/68060inside DETACH
endif
endif
```

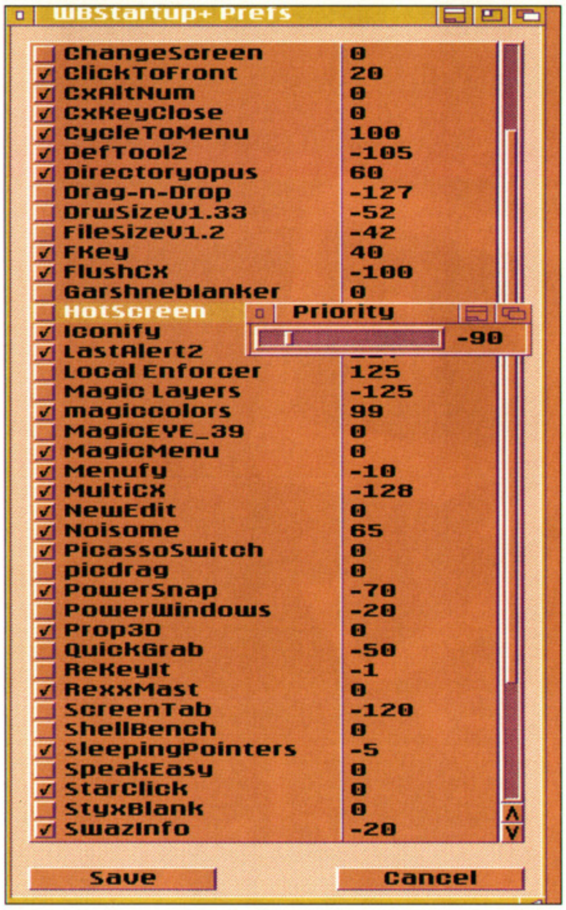
FAILAT sets the default severity for fatal errors so any command that returns an error code of 10 or more stops the script, and CD SYS: sets the default directory because auto-starting CDs often assume that files are in the root.

Finally the startup-sequence on the new system drive is run. Subsequent operations work as if you booted directly from the CD.

WBSTARTUP

At the end of its startup the Amiga runs the programs in the WBStartup drawer. Like partitions, WBStartup commodity priorities determine the order they're loaded. Some need to be loaded early, like *Enforcer*. Others like *MultiCX* are best left till last.

Aminet's WBStartupPlus lets you turn WBStartup items on and off and adjust their priority. It creates 'Enabled' and 'Disabled' directories inside the normal WBstartup drawer, adding a program which runs the 'Enabled' ones in order and ignores the rest. The *Preferences* program moves files between

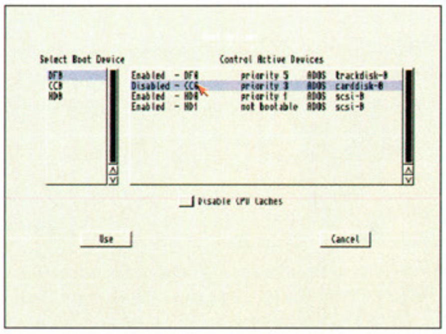


WBStartupPlus lets you select and prioritise startup commodities.

the sub-directories, depending on whether they're selected or not.

CPU SENSING

Multiple startups are useful when setting up a boot disk for other people. You might want a different configuration,



The Early Startup menu can select a startup drive or disable a partition.

depending on the CPU or amount of memory available when the system starts up, and some old programs dislike the latest processors.

My test Amiga may contain either a 68040 or a 68060, so I've modified the startup-sequence to load a different banner depending on the setup.

Listing 3 shows the lines to add immediately after EXECUTE T:M, which loads the monitor drivers. Before that, the required mode may not be available. If you leave it until user-startup then the banner will disappear almost as soon as it has arrived.

PicBoot loads my banners but any other program could be called. The clever bit is the PEEK LIB=exec 297 >ENV:CPU which creates a variable CPU containing the contents of ATTN_FLAGS, the system variable that indicates the CPU type. It's a mask with more bits set for later CPUs, so in this example 127 is a 68040, 255 is a 68060 and an '030 loads no banner. Later lines test the value of $CPU.

Zero signifies a bare 68000. The first bit means 68010 or better, the next signifies a 68020 or better, so a bare A1200 returns 3. 7 means 68030 or later (say a A4000/030 with no FPU) and 15 means a basic EC or LC 68040 with no FPU. I don't know anyone else who's got an Amiga like that.

Then come two bits for a 68881 or 68882 (or emulation) and one for the 68040 FPU, before the bit Commodore never used, assigned to 68060 systems.

If in doubt, try PEEKs on various systems and note the results, often affected by SetPatch, or read the file include/exec/execbase.i, supplied with Devpac and system-friendly compilers.

PEEK can read any other system variable, in ROM or RAM, library or device or custom chips. Read the PEEK+POKE documentation for more suggestions. The IsA4000 command detects A4000 hardware, allowing special action in a script.

AMINET RESOURCES

util/boot/getmouseinput.lha
util/boot/startmem.lha
util/boot/WBStartupPlus.lha
util/cli/peek_poke.lha





MailBag

Send your letters to: Letters To The Editor • Amiga Format • 30 Monmouth Street • Bath • Somerset BA1 2BW or email to:amformat@futurenet.co.uk – putting 'Mailbag' in the subject line.

SEND US	SPARE US
Ideas for the mag	Complaints about lack of advertising
Your own Amiga adverts	Comments about how long it takes *AF* to reach Timbuktoo
A completed subscription form	Nonsense
Things which make some sense	Technical problems (address them to Workbench)
Comments and queries	Letters about the Internet
Letters via the Internet	Dull uses of the Amiga
Interesting uses of the Amiga	Amigas you have seen on TV
Amigas you have spotted in shops	

SWOS LOSS

I recently dug out an old copy of *AF* from January '96 (*AF80*). In the mailbag section I saw a letter encouraging Sensible Software to release a proper team editor for *SWOS* for player values, abilities, etc. You reply by saying you are attempting to put such an editor on a coverdisk. I would be very grateful if you could give me details on how to obtain this coverdisk. I currently own an A1200 and have the original *SWOS* plus the *95-96* and *96-97* editions.

Nick Watts
Codsall

I'll forward your request to our Reader Request's department for inclusion on a future CD. Unfortunately it isn't really possible to put it on another floppy disk just for you – you should have made sure you got the appropriate issue in the first place!



Forget your N64s and PlayStations, this is still the best footy game ever – fact!

A CD³² should have no problems playing our coverdiscs if you have the correct cables.



CABLE TIES

I recently upgraded my A1200, adding a hard drive and 8Mb of memory and a CD^{32} player. I realise the CD^{32} only plays CD^{32} games and audio CDs, but I was informed that with the addition of a CD14 cable then Amiga CD-ROMS could be played. This cable is now on order.

I would like to know if this is sufficient to play CD-ROMs or will only certain ones work? Also, I have just bought the last issue of your magazine with the discs. Could I have bought the CD version instead?

Any advice and information would be gratefully accepted as I think it is now about time I started getting the best out of my Amiga.

Bernard Marr
St. Helens

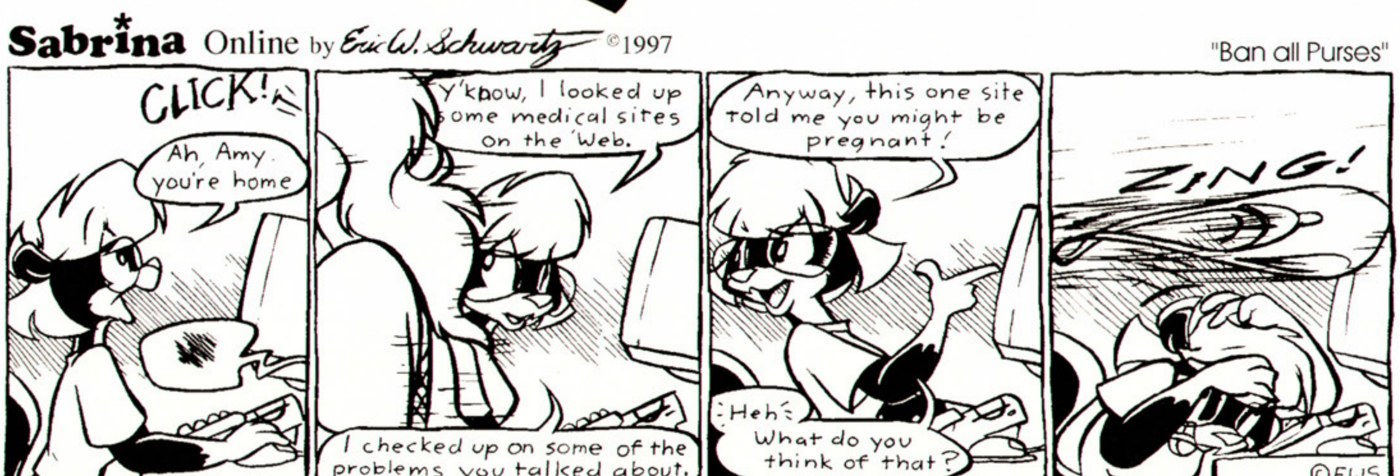
I'm not exactly sure which component you have ordered as you neglected to say who it was from. I assume that it is one of the many serial links available for Amiga-CD^{32} communication. You will certainly be able to transfer stuff from the CD to your A1200 with such a system, but it will be rather slow if you try to run any applications from the CD. Fortunately, our CD will work on the CD^{32} as well as a normal CD-ROM drive, so you shouldn't have too much trouble.

THE GAME REMAINS THE SAME

There is a game that I love called *Command and Conquer: Red Alert, Counterstrike and Aftermath* but it only works on the PC. I have an Amiga 1200 so do you know if any company plans to make this game for the Amiga?

I would also like to get an Amiga version of *A Bridge Too Far.*

Matthew Whitehead
Deeside



http://www.coast.net/people/erics/sabrina.htm

Although the exact same games are not available on the Amiga, as we have pointed out on several occasions, these games are PC clones of a game which Westwood originally wrote for the Amiga – Dune *and* Dune II. *I'd recommend getting hold of either of them.*



***Dune* and *Dune II* were the basis for *C&C: Red Alert* and both are still excellent games.**

A TASTE OF THINGS TO COME

When I received my subscription copy of *AF* I could barely believe my eyes – *Doom* on my Amiga? Is it April 1st, I thought? No. A big thank you to id who have missed out on the revenue from thousands of software-hungry Amiga users and who've given us a great start to the year with this source code.

Thanks also to the talented programmers out there for porting it and proving to all that the Amiga can cope with demanding games and to *AF* for including *Doom* on the CD.

Although I am online I didn't realise this was available (the net is a big place) and I may have missed it if it wasn't for your CD.



The many versions of *Doom* on our coverdisk last month – what every Amigan wanted.

GAMES PLEA

This letter is in reply to Karen Marsay's letter (*AF107*) about the lack of CD^{32} games. I have the following games which I do not play, so if Karen would like to get in touch with me, we can work out a price – *Cannon Fodder, Arcade Pool, Microcosm, Shadow Fighter, Project X/Ultimate Body Blows, Oscar/Diggers, Road Kill, Guardian.* You can print my address and phone number if you want and if anybody else would like to get in touch they can, but Karen will get first chance at them.

Mick Pearson
7 Muschamp Terrace
Warsop
Mansfield
Notts
NG20 0NL

I hope this helps, Karen...

Finally a note for other software houses. Please don't make us wait as long as we have waited for *Doom* for other top titles. The Amiga is still alive and the specification of the average machine has risen from the basic A1200. Now we have tasted blood we want MORE! Many thanks.

Rob
via email

I'm glad you enjoyed your CD (and of course there was more than just Doom *on it. I hope you find our CDs useful and packed full of stuff you would never normally come across).*

We like to make them exciting for all our readers and we certainly don't make outrageous claims to include demos of games which simply don't exist, then conveniently not mention them at all the next month.

OH WHAT A CIRCUS...

I believe there is going to be a World of Amiga show in England in April or May. I wonder if you could give us details of the show as soon as possible.

However, because I've never been to England before, it would be cool if you could print a map in your magazine. This should show the distance and

Continued overleaf ➡

JAM TOMORROW

I hope you're not too fed up with letters of praise and expressions of well-being, but if you are, tough, because here is another one!

Our family has been in possession of Commodore's finest for the best part of ten years now. It all started with a trusty A500 which we sold after several years to upgrade to an A1200, of which we are now on our second and is linked to another A500. My dilemma is, do I recase the A1200 in a tower, like the one from Power which you gave such a good review, or do I wait and purchase one of the new Amigas like the A5000?

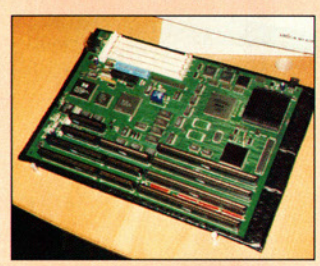
From what I can tell so far the A5000 is merely a recased A1200, but I stress that I do not know this for a fact. Are there any more significant features, such as a new chipset, that I have not heard of yet? I am sure that many potential buyers are in this predicament of not knowing whether to purchase one of the many available new products or to wait to see which ones are going to be here for good.

Anyway, cheers for the fantastic magazine and let's hope that 1998 will truly be "The Year Amigas Once Again Rule The Home Computer Market."

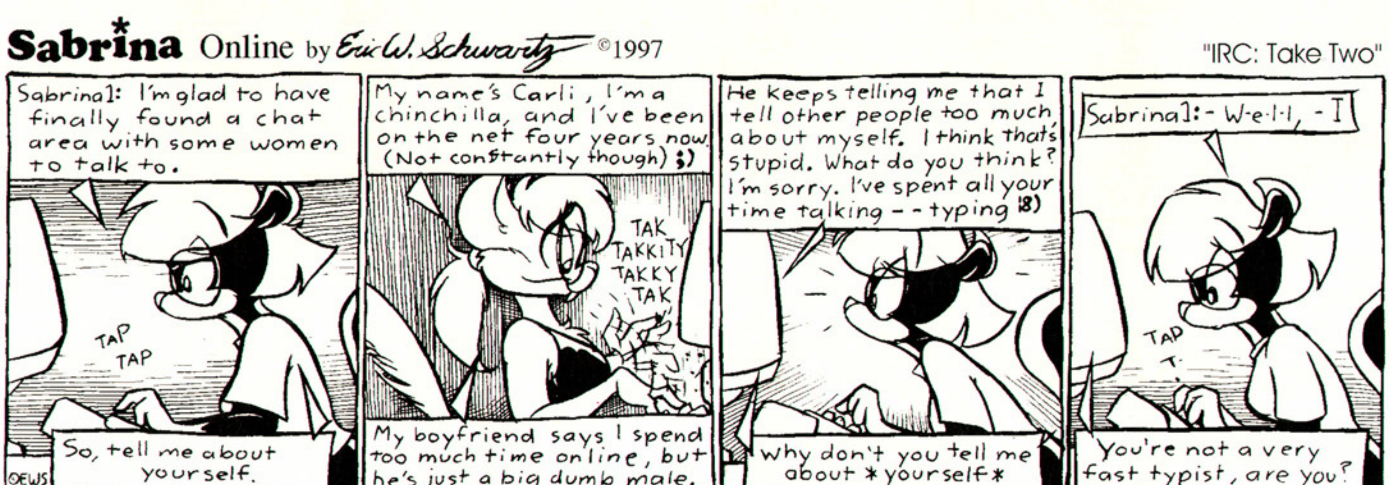
Charles Adler

Well, the decision is very much up to you. I have to stress that we have not actually been in possession of an A5000 yet, so commenting on it would be a bit premature. I know other mags have done reviews of things like the A/Box several years in advance of when it will actually be ready, but we prefer to reserve judgement until we can test things out properly.

That said, the A5000 as it stands at present is going to be an A4000 replacement. The actual chipset will not offer any more features than the one found in your A1200, although the processor will be faster and expansion easier. The answer really depends on whether you want tower expandability today, or sometime soon.



Is this going to be the future of Amiga computing?



http://www.coax.net/people/erics/sabrina.htm

direction of the show from the nearest appropriate airport.

Also, with some programs I find that when I click on their icons I get a Please Insert Program requestor. I then do a Show All Icons in the window and find there is no EXE file there. If I'm not mistaken, that's Ben doing too much beer drinking (hasn't he recovered from Cologne yet?).

I missed your demo of *Genetic Species*. Could you include the latest one on a future CD please? Cheers.



We'll tell you all there is to know about this Amiga show as soon as we know the details!

Kenneth Heslip
Dublin, Ireland

Of course we will give you details of any planned show. At the moment it looks very likely that there will be an event, taking place on May 16th-17th. We will hopefully produce a show guide in a future issue.

The Amiga is not like the PC and does not only execute files which have a .EXE extension. An executable file can have virtually any name. If you want to write in and explain your problem specifically, I'm sure the Workbench department will be able to help.

FAST FORWARD

I have been an Amiga user since my brother bought a A500 WB1.2 way back in 1987 when the 8-bit format was dying off and the 16-bit computer was just taking off. The Amiga then was brilliant, its graphics and sound stunning for its time.

Now it's 1998 and I own a souped up, accelerated A1200 with a Blizzard 1230 and recently bought a 12x SCSI CD-ROM and a 1.1Gb hard disk. This is all well and good, but the underlying architecture is still ancient.

The 680x0 series is practically at the end of its life (even though Motorola are producing faster 68060s), AGA is too limited and slow for today's demanding software and the games just aren't as good as they used to be.

The PowerPC is the next logical choice to go for, and better graphics and an 'expandable' system is the route I want to go down next. The A1200's all-in-one box design is too limiting and PowerUp is OK but restricted by the A1200's design.

A complete replacement is needed but without the hassle of replacing all the peripherals and software by going down the PC or Mac line.

There are some choices here:

1) Tower up the A1200. Nice, but very expensive and limited to slow Zorro II slots being 'hacked' onto the A1200.

2) Buy an A4000. Expandable, but still outdated and slow for a standard machine. It's hard to get hold of and tends to be expensive.

3) DCE or BoXeR. Updated Amigas with brand new motherboards which use newer 680x0 chips, a faster AGA chipset and have Zorro and ISA (PCI would be even better!) slots.

The BoXer is the ideal choice for me as it has backwards compatibility and the option to upgrade to PowerPC via its own PPC mini-upgrade board, and it has very few of the limitations of PowerUp processor sharing.

If the Amiga is to continue then I think several things should happen:

1) Continue providing AmigaOS upgrades with the aim being a PowerPC AmigaOS – this is absolutely essential!

2) Develop new Amiga machines and incorporate the latest technology whenever possible, again aiming towards PowerPC Amigas.

Anything less than this would be a waste of time as it really wouldn't last for very long. If Amiga Inc. doesn't aim for a 680x0 and chipset replacement then I'm sure that the Amiga will slowly die off and I would end up having to change over to a PC.

I hope that in 1998 Amiga Inc. clarify where the Amiga is really going and announce an unambiguous and clear statement for its future. In the meantime, OS 3.5 is the next thing to get.

Peter Hutchison
Halifax

In relation to your first point, I feel obliged to say that Zorro-III cards are possible in an A1200-based tower, providing you get an A4000-style CPU card. MicroniK have the facility to do this for their tower systems, as will Power soon.

It is unfortunate that, as yet, Amiga Inc. have not made any firm commitment to produce a version of Workbench for an alternative processor.

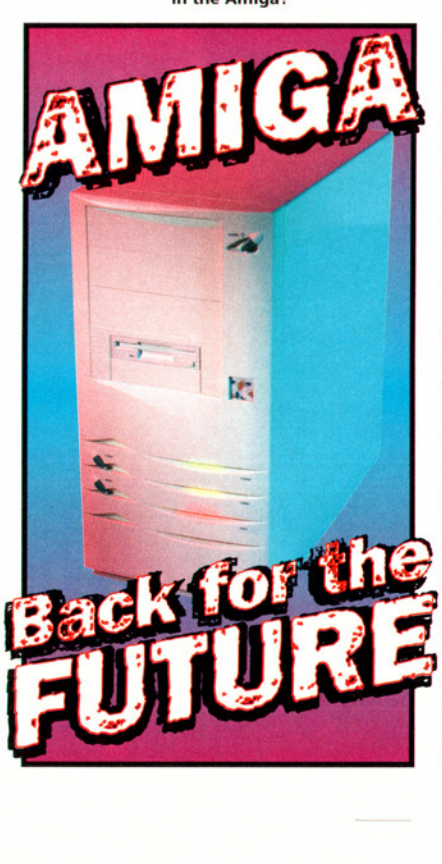
On the other hand, it is a project which would require a lot of work, and one which would only benefit the manufacturers of PowerPC cards. Can phase 5 and Amiga Inc. not work together on this?

AMIGA LOTTERY

I am writing to share with you an idea I have had to help get the Amiga's name back into the public's eye. I have written to both Amiga International in Germany and Amiga Inc. in the USA and hope they will take it up in one form or another. Here's the outline:

1. Set up a prize draw to take place, say, once a month and run it for up to a year.
2. The prize would be a high-specification A1200 (towered up, of course) or perhaps one of the up and coming Black Box systems from Blittersoft or the Power Amiga from DCE/Power Computing. The important factor should be that the prize is seen, from the public's point of view, to be an extension of the old (and forever original!) product they thought had died off, never to resurface.
3. Invite anyone with a pre-A1200 model Amiga to enter the draw by submitting a photograph of their Amiga's serial number.
4. Publicise in as many Amiga magazines as possible, in the general press and also on the Web. Needless to say, a TV advertising campaign urging people to get their old Amigas out of their boxes and in front of a camera for the chance of owning a Workbench 3.1 Amiga (with PowerPC just around the corner) would probably go down very well. However, as we all know, having Amigas on TV adverts isn't a very realistic concept given marketing budgets which don't reach far enough.
5. Use the logo "Amiga: Back for the Future" if nobody has copyright to it already, as it is possibly the best phrase I've heard for ages.

The marketing slogan that is going to revive public interest in the Amiga?



A scheme such as this would provoke just the sort of questions that we Amiga fans are dying to answer: "Why would I want one of these prizes?", "Isn't the Amiga old technology?", "What features does it have which might sway me from buying a PC?", etc. If accompanied by educational-based advertising campaigns designed to answer this sort of question (not forgetting the literature to accompany entry forms on display in the shops) it could easily make a huge impression and revive public interest in our beloved machines.

I hope the two arms of Amiga take an interest and go somewhere with this. Perhaps the idea is flawed somehow, so I would welcome any feedback I may get, but I've been tossing it around for a couple of weeks now and it still sounds viable and, most importantly, it still sounds fresh and exciting.

Many thanks for reading this and for your motivating reply to Christopher Hindley's letter in *AF107*. Keep up the brilliant work that is *Amiga Format*.

Mark Benson
Norwich

I hope you'll let us know if you get any feedback from them.

OLD GAMES NEVER DIE...

All Amiga users are feeling the effects of the decline in available software over the years since the demise of Commodore and various Amiga software houses. This therefore leads me to ask two things...

1. If a software company has ceased to exist, surely its titles would then be considered Freeware and their recirculation by users and inclusion on

RETURN TO SENDER

A lot of Amiga users are saying that your mag is crap because you don't respond to your emails. I still look at your mag in the newsagents and see that it is good looking and has a lot of nice stuff on the cover CDs. I would even buy it, except I spent all my money on a '040/25 for my Amiga.

Alister Geary

Well, that's not entirely true. Everybody who sends us a properly addressed email gets a response when we receive it. Unfortunately, due to the volume of mail that we get, it's impossible to answer every one personally. However, all of the mail that we get is actually read, by me or Ben.

About 30% of the mail we receive is not dealt with effectively because, for some reason, people still ignore our advice on addressing it. If, for example, you are sending mail to this page, the subject line should contain "Mailbag" or "Letters". If the subject is "Here is what I think about..." it will most probably lie in the incoming mailbox for several weeks before it is seen, if at all.

Some people have suggested that this isn't very convenient for them, but I can't really see what the difference is. If you were sending a letter to Panormama *at the BBC, you wouldn't write "What I Think About Gun-running, BBC TV, etc" on the envelope. Well, you might, but it would almost certainly never get to the right people.*

If you want to email us, please try to put the relevant department in the subject line, or else you really are wasting your time...

cover disks, etc, could no longer be considered to be piracy.

2. Each progressive upgrade of the Amiga (WB1.2 to WB1.3; 68000 to 68020 to '030 & '040; A500 to A2000 to A3000, A1200 and A4000 and the advent of hard drives) have all seen usable software become dust gatherers because they no longer work on the newer system or machine as they aren't HD installable or suffer other problems.

I have an abundance of great titles that are no longer usable because of the various upgrades which I have made over the years.

I would love to be using this

Continued overleaf ➡

FREE PHONE?

Dear *AF*,

A couple of days ago, I was sitting in a chat area, talking away, when a thought came into my head. I suddenly realised that BT customers are being deprived of the Internet! Is it right that we should have to pay by the minute for all our calls? No, it's not. We should be able to log on and stay on for as long as we wish. Apparently, Oftel (some government rubbish), do not allow BT to offer free local calls to their customers. So, if you are with me on this, get in contact with Oftel and share your views on the subject. Let them know that the vast majority of the nation do not want to pay incredibly large phone bills just for local calls. Demand FREE LOCAL CALLS and DEMAND THEM NOW! Internet users should have the freedom that they need to explore the net. This pay by the minute for local calls business must stop. And it must stop NOW.

Adrian Moorefield
via email

The reason why BT is not allowed to give users free local calls is that it is regarded as unfair competition. However, there is nothing to stop cable companies providing this service in the areas where they operate.

Sadly, I have noticed that Telewest, a local cable provider in the Westcountry, not only refuse to do this, but they pointedly exclude ISPs from the local numbers which can be dialled at cheaper rates. Now what's the sense in that?

software as, even today, they are great titles. Amiga emulators have enabled PC owners to enjoy Amiga titles that Amiga owners can no longer enjoy.

Unfortunately, I don't have the programming skills to be able to create program patches or HD installers. How about those with these skills using them to flood the Amiga scene with a revitalisation of all those great titles that we are unable to use. Sure, new titles are welcome but there's still a lot of life in many of the older ones.

Peter Redstone
Australia

Hmm. Unfortunately, even if the game is no longer published or the publisher no longer exists, the copyright to the work will still rest with someone.

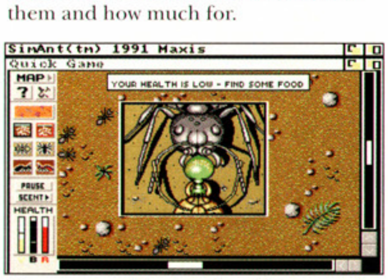
It is still illegal to distribute illegal copies. Elvis has been dead for years, but you can't just create a new compilation of his songs and then start flogging it or giving it away.

As to your second point, that is largely because the people who wrote the games did not stick to the Commodore guidelines. Obviously, they weren't to know that one day everyone would have WB3.1 ROMs and '060s, but that is largely why these old games are incompatible.

There are ways, which we have detailed many times before, of using utilities such as ReloKick *to run older games (sometimes turning off CPU caches and choosing Original Chipset from the early bootup menu will do the trick), but for some games a patch is the only solution. Many programmers have helped out with installers and patches – just check out our CD!*

SIM LETTER

I'd just like to ask if there are any other Sim titles for the Amiga? *Sim City 2000* is great, but I haven't seen any other titles anywhere. If there are other Sim titles other than this then I'd be grateful for any information on where I could buy them and how much for.



When you want to experience life as an ant then, erm, *Sim Ant* is the program for you.

Better still, a demo on the games coverdisk would help all of us Sim fans decide whether we should buy them or not.

Blaine Pike, 10
Tyne and Wear

Yes indeed, there were a number of different Sim titles which predate Sim City 2000 *by quite a bit. The original* Sim City *for one,* Sim Ant *and not forgetting* Sim Life. *Unfortunately they are all rather old now and I don't hold out much hope of you being able to buy them from anywhere. Your best bet is to place a wanted ad in the Reader Ads section of* Amiga Format.

TIME TRAVEL

In issue 107 you said that *Myst* was not available yet, while I got it a month ago from Weird Science. How many days does it take to prepare a magazine like yours and when did you finish writing that particular issue?

Also, what kind of configuration would I need in order to run *Quake* at a decent speed on my A1200?

Is it really a good idea to upgrade to PowerPC or is it better to find out what Gateway is planning for the future first?

I would really like to buy a Power Tower but I have an Aura on my A1200 PCMCIA port. How can I still use it without losing the opportunity to re-house my Amiga? I have 2 hard disks: 1.2 and 3.6Gb, a 24-speed CD-ROM, US ROBOTICS Sportster Flash, 68030+68882 40MHz, 18Mb RAM and a PowerBox.

I downloaded the little patch which will upgrade my modem to 2x (56 Kbps). Can I use it with my Amiga or I do need to use PCTask? Is the 2x standard supported by my provider, Demon?

Vincenzo Morra
vmorra@morres.demon.co.uk

A lot of people seem to think we sit around doing nothing for three weeks, then write the whole magazine and print it, stick on the disks and CDs and deliver it to the shops in a couple of days. This is very far from the case. The reality is that if you buy an issue when it first appears in the newsagents (subscribers usually receive it a few days earlier), some of it may have been written as recently as a week ago, while some of it may have been written up to five weeks previously. We put the magazine together on a time sensitive basis, so the first things we do are things like the tutorials which are not going to be affected by being a few weeks old when people read them, then we work through the rest of the mag. The news is almost always the last thing to be written, so it is pretty much up to date.

Quake is going to require the fastest Amiga possible – you'd be well advised to get an '060.

You can use PCMCIA cards on the Power Tower but you will need to buy the adaptor from Power first. Your Aura should work fine.

Your modem patch might be a program for the PC or a direct patch. Read the instructions with it. Unfortunately Demon, like many ISPs, is only currently supporting K56flex, but as long as you can upgrade your modem to the upcoming v90 standard, you shouldn't have any problems.

SUB CULTURE

I just received my first subscription copy of *Amiga Format*. I think you may have seen my name in the new list of subscribers as the very first thing I saw when I opened the packaging was the name of one of my programs, *Hal*, on the Subscriber's Superdisk! Not only that, but another of my programs, *SpaceJest*, turned up in the PD section – not just reviewed, but made the Selection Of The Month! I'm glad that someone out there still plays and enjoys text adventures.

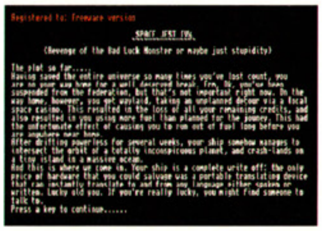
All I can say is that you've made me very happy and it's spurred me on to write more.

For what it's worth, I'm busy with another adventure game which will be even bigger and better than *SpaceJest*, and *Hal* has also been updated since the version on the disk (although the new version is only going to be available from my homepage for the time being).

There's a few other goodies to download from there as well. If you're interested, the address is below.

Once again, thank you very much for making my day!

Simon Champion
spudley@mr-potatohead.com
http://village.vossnet.co.uk/c/champion/



***SpaceJest* isn't much to look at, but it is an incredibly addictive text-based adventure game.**

I assure you our interest in your output was purely based on merit. I hope you will submit any further work you do to our CD Submissions department. Thanks for all your efforts so far.

WRITING TO AMIGA FORMAT DO'S AND DON'TS

DO write to us on any topic you like, as long as it has some relevance to the Amiga or *Amiga Format*.
DO use email if you prefer. The address is amformat@futurenet.co.uk, but be sure to use the subject "Mailbag" or your mail won't be read.
DO try to make sure what you are writing will be of interest to other readers, or that it raises some valid point.
DO make some sort of effort to make your letter legible. If we can't read it, we can't type it in.
DO keep your letter concise and to the point. If it is two pages of A4 then we'll probably get bored and bin it long before we reach the end.

DON'T bother writing to tell us that you agree with a previous letter if you aren't going to add anything to the debate.
DON'T write including a personal letter/disk to someone who appeared in Mailbag two or three months ago – we won't still have their address.
DON'T address technical queries or reader ads to Mailbag – your letter will be put in the wrong pile and then it may never come to the attention of our technical experts.
DON'T include an SAE. We are far too busy to reply personally and you are just needlessly giving money to the Post Office.
DON'T forget that we occasionally award a Star Letter prize, if your letter is funny enough or is jolly helpful.

Reader Ads

Whether you want to make money, make friends or make sure you find that elusive piece of software, this is the place to look.

For Sale

● **Squirrel (new) £30.** Cumana external drive £20. Worms, Monkey Island 2, Syndicate, Wing Commander, Overlord, Colonization, Settlers, boxed originals, £8 each. Trevor, 41 Britannia Court, Duke Street, Derby, DE1 3BJ.

● **External SCSI,** 12x CD-ROM drive with Surf Squirrel, £150. ☎ 0114 2495172.

● **Lemmings, Crystal Kingdom,** Dizzy, Seek and Destroy, Banshee, £5 each. Heimdall 2 CD32, Microcosm CD32, Enchantia, £8 each. Legends, Dune 2, Police Quest 2, SWOS, Operation Stealth, UFO Enemy Unknown, £10 each. ☎ 0161 3049471.

● **Siamese system (video switcher)** unused, £80. 14000 bps fax/modem, £30 ono. ☎ 01900 63568.

● **CD32 as standard,** one controller, PSU, all leads and 46 games. Few games not owned, perfect condition, all for £250. Contact Mark Griffiths, 87 The Hollands, park Road, Hanworth, Middlesex, TW13 6PR.

● **A3000, 18Mb,** 100Mb HD, 1084S monitor. Swap for best A1200 offered or sell. Offers? ☎ Lee 01253 500447.

● **Accelerator board,** Magnum '030 40MHz and 16Mb RAM, £100. Power scanner, b/w greyscale, £25. ☎ 0181 4523389 (evenings).

● **Amiga 1200, 10Mb,** 80Mb HD, 33.6K modem, mouse, software, Comms Internet software, utilities, Citizen 120D+ printer, external drive, £200. ☎ Dave 01992 414546.

● **4 speed SCSI (external) CD-ROM.** Sensible offers welcomed. ☎ 0411 352018.

● **1 Power b/w hand scanner** and software, £40 ono or swap. Also, Surfer/Dacom, fax/DATP/voice modem, 33.6Kbs. Plus Netconnect software, £80 ono. Brand new, never used, still in box Datel Graphic Tablet and software, ideal for use in DPaint, Brilliance, etc. £30 ono or swap. ☎ 01744 733984.

● **A500(+) PSU £15.** A520 modulato, £15. A500(+) keyboard £15. A500(+) internal drive £15. External floppy disk drive £20. ☎ Dave 01386 423265.

● **Amiga 1200 Blizzard 50MHz,** 4Mb, 200Mb HD, go with 200W transformer, monitor CD32. 50 boxed games, 5 CDs, external disk 3.5" drive, £375 ono. ☎ 0118 9833313.

● **A500 with Workbench 1.3,** 0.5Mb memory upgrade and manuals, £40. Extra disk drive £15. Various flight sim games £3 each. A1200 games for sale, £5 each. ☎ 01707 664385.

● **A1200, '030, 50MHz and FPU,** 8Mb RAM, 850Mb HD, Genlock, ProGrab, monitor, printer, manuals, loads of software, CD-ROM, extra disk drive. Selling under duress for bills. £650 ono. ☎ Paul 01939 210297 anytime.

● **A1200, 2Mb RAM,** Workbench, Abc Printer and Philips monitor, instruction manuals and disk. Also joypad, mouse, printer lead included, £450. ☎ 01698 821029 after 4.30pm.

● **A500+ Cartoon Classics pack, £50.** Games including Humans, Robocod, Chaos Engine, Nick Faldo's Golf, £5-£10 each. Analogue joystick £10. Media Magic, £20. Mouse and mat, £5. ☎ Simon 01706 845191.

● **VIDI 12RT frame capture system,** boxed with software manual and cables, £25. RocTec external floppy drive, suit any Amiga, boxed as new, £25. ☎ Brian 01384 860358.

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Free!

● **Amiga 1200,** 80Mb internal HD, hi-res stereo colour monitor, joystick, trackball, some software boxed. PWO, £225 ono. ☎ 01384 860358.

● **A1200 Desktop Dynamite pack** with external floppy drive, Pro-Grab, 24-bit real-time digitiser, all manuals. 270Mb IDE hard drive and a few games. Daisy Wheel printer. £350 ono. ☎ 0956 118122.

● **Tidbit 60 hard drive,** 60Mb, VGC, bargain £20. Ross Whiteford, Cordon Mains, Abernethy, Perthshire, Scotland, PH2 9LN. ☎ 01738 850732.

● **Blizzard 1230** Mk V Turbo accelerator, 8Mb RAM, no longer needed due to upgrade. Box and manual included, excellent condition, £120 ono. Includes free Breathless. 0113 2266523 (9am to 3pm only).

● **Graphics and video system.** 4000/'030, 16Mb RAM, 250Mb HD, multisync, 24-bit graphics card, Opal Paint, Image FX, Brilliance, Framegrabber, Genlock. £1000. Offers. Also, printers and flatbed scanner. Any offers? ☎ Geoff 01638 720048.

● **A600 memory expansion,** 65Mb HD, sampler, loads of software, £85. CBM 1084 colour monitor, £40. CD32 plus software, £45. ☎ 01228 592791.

● **A3000 with 6Mb RAM,** mouse, keyboard, 540Mb HD, Commodore 1084S colour monitor, loads of software installed, £375 ono. 8Mb RAM card for A1500/A3000/A2000, £50 ono. A1500, needs mouseport repaired, offers. ☎ Billy 01482 871855.

● **A1200, colour monitor,** desktop cabinet, fitted with 1.2Gb hard drive and 8 speed CD drive. Lots of software, mags, CDs, etc. £300. ☎ 01522 889620.

● **Surf Squirrel £50.** 5x Zip carts £40. SCSI 25/50 changer £5. 25/50 SCSI cable £5. Money Matters v4, AB3D2 £10, £10 each. A1200 keyboard and casing, offers. ☎ David 01904 624637.

● **A500+, leads, power pack,** mouse, 100 games, RAM card, joystick, disk holders, printer. All for £100. ☎ Dawud 0181 8814086.

● **A1200, 270Mb hard drive,** 6Mb RAM, monitor, joysticks, WW6 organiser, MM4 Datastore. Lots of other software and games, £350 ono. ☎ Chris 01252 522040 (evenings).

● **GVP A1230,** 40MHz, 68030 accelerator, FPU, 8Mb, 60ns RAM, no clock. £80 ono. Selling due to upgrade. ☎ 01232 658939 (evenings only).

● **CD32 for sale.** Reason for sale is upgrade of A1200 CD drive. Includes Power Pack, aerial, joypad and games – Microcosm, Cannon Fodder, Project X, U. Body Blows, Heimdall 2 and MUPLC. £180 ono. ☎ 01667 493385 (after 5pm).

● **60Mb 2.5" HD.** Screws, cable, software, instructions, partitioned and formatted. 2 years old. £15. ☎ Daniel 0181 5205238 (after 6pm or weekends).

● **On the Ball (World Cup Edition),** mint condition with manual, £10. Syndicate (never played) £8. Amiga hyperpad controller, as new, £5. Add 50p p&p for original boxes. ☎ Nigel 01978 264233 (evenings).

● **3000 spectrum games on CD** with emulator program, £10. ☎ 0411 715548 or write to Ian Otter, 5 Vaughan Avenue, Grimsby, DN32 8QB.

● **A1200 6Mb, 340Mb hard drive,** much original software and games, £300. Also A500 1Mb, much software and TV adaptor, £100. ☎ Chris 01590 673945 (London delivery possible).

User Groups

● **Calling all Amiga enthusiasts** wishing to help set up an Amiga user group in the Basildon/Wickford area. ☎ Mick 01268 761429 (evenings or weekends only).

● **The Surrey Amiga group.** One of our aims is to help people get onto the Internet with their Amigas. We are based in Guildford. Contact our group secretary, Rob Gilbert ☎ 01932 875336 or email gilbie@arrakis.u-net.comp or ☎ Scott Hughes 01483 576840.

● **ICPUGSE weekly meetings** at Biggin Hill with lectures, clinics, workshops, help, chat, etc. Get more from your Amiga. Fun and informative, visitors welcome. For details ☎ Len Beard 01689 813616, or visit www.icpug.org.uk

● **Amiga users in Belgium.** There is a new club in Antwerp. Join us now. ☎ 03 8291039 after 5pm.

Personal

● **I'm an Amiga user from Russia.** If you can help me with software and hardware of are just interested in contacts, write to Sergey Ignatiev, Imenevo, Krasnoqrmeisk, Chuvashiya, 429624, Russia.

● **Amiga 1200 user of only 8 weeks** needs all the help and advice he can get. 59 years of age and pretty thick, but eager to learn. North Wales area. ☎ 01244 816055.

● **Semi-professional** AMOS programmer requires people (age, sex and creed not important) to do graphics and sound for possibly commercial game. Contact A Ramsay, 16 Anderson Street, Inverness, Scotland, IV3 6DF.

● **I'm disabled** and can't move too much. I have a second hand A1200 without Workbench 3.0 or 3.1. If you could send a copy then please help me. Thank you. G.P. Georges, 43 Marlborough Drive, Walton le Dare, Preston, Lancs, PR5 4QU.

Wanted

● **Amiga related hardware** bought for cash, other platforms considered. Especially after: Multisync monitor and A1200 68040 card. Portsmouth/Fareham area. Swaps considered. ☎ John 01329 664735 (evenings) or email johncdu@hotmail.com

● **Scala MM300 or 400.** Willing to pay a reasonable price. ☎ 01232 614086 (ask for Billy).

● **Mastering AmigaDos 3** volume 1 (tutorial). Also Hackers Handbook. ☎ Steve 01902 419292.

● **I'm looking for Bars and Pipes** Professional, Indiana Jones: The Fate of Atlantis and Flight of the Amazon Queen, preferably boxed. 01244 812514 after 6pm or email chindley@usa.net

● **PD contacts wanted** for software swapping. Write to Colin Marshall, 9 Farm Hill Way, Meanwood, Leeds, LS7 2SQ.

● **A1200 owner** looking for cheap games and software to buy, swap or borrow. Please send price lists to: Stuart LeGrice, 46 Victor Gardens, Hawkwell, Hockley, Essex, SS5 4DS.

● **CyberStorm '060.** Must be the Mk II version. I will pay about £300 for one with no RAM. Contact "SlarTee" on IRC #amiga. ☎ 01603 702644 or email George.Robertson@ukonline.co.uk

● **Amiga contacts wanted.** Boxed games for swap or sale, ring for list. ☎ 01264 394152.

● **ProGrab 24RT plus video digitizer** for A1200. Will swap for CD32 with 1 controller and 6 games. Will pay postage. ☎ Craig 01243 554011.

● **Any rugby computer games** for reasonable price. Also, 2.5" or SCSI hard drive. ☎ Todd 01738 850732.

● **Standard A1200** in exchange for A600 with 2Mb of memory, tons of software and cash. Also, Midi keyboard and interface. ☎ Ben 01245 350561 any time.

● **Cybervision 64/3D** with monitor switcher, only 3 months old, swap for PicassoIV. Wanted for Vortex GoldenGate 386 board, CPU upgrade 486. Also wanted, manual for the 386 board. ☎ Warren 01554 775833.

● **Subscribers CD-ROM** containing Wordworth 5, Organiser 2, Datastore 2, Money Matters 4. ☎ 01665 513023 (evenings).

● **Body Blows disk 2** and Cruise for a Corpse disk B. My original disks have developed read/write errors. Will pay £3 for each disk. ☎ 0181 460 1211 (after 5pm).

● **Space Crusade,** good price paid or swap. Also, has anyone got the game Space Hulk they want to sell or help me with, because I have this game and disk 3 is dead. Help! ☎ 01744 733984.

● **Premier Manager 2 and 3** required for Amiga 500+. Must be boxed originals with protection documentation and manuals. Send details to Andy, Flat 2, 113 Moseley Street, Birmingham, B12 0RY.

● **Championship Manager 1** wanted for the Amiga 600 or 1200. Does anyone know where I can get a copy? ☎ 0181 5678133.

● **Amiga 1200 and A500 contacts** wanted. Contact Frank Haaland, PO Box 15, N-5240 Valestrandsfossen, Norway.

● **Graphics program, Dogs,** by Real Things. ☎ 0113 2930758.

● **Amiga ROM Kernal manuals** (v2.04+) wanted. Also Killing Game Show and Monkey Island 2. Reasonable price paid. ☎ Dennis 0181 4526802.

● **I'm looking for Superfrog** for my A500 or A1200. Anyone got it? ☎ Carl 01652 628504 (after 4pm). Must be virus free.

● **Contacts for swapping software** and general chat. Also, you might be interested in joining an 18s only diskmag. ☎ 0411 352018.

● **Amiga contacts in Israel wanted.** Please get in touch as I'm stuck here with my A1200. Fax or ☎ 9724 9510527.

The Gallery

ON THIS MONTH'S CD

AFCD25:-ReaderStuff-/-Gallery-

Ben Vost plucks out pictures of parachutists, planes and Pink Floyd for this month's Gallery.

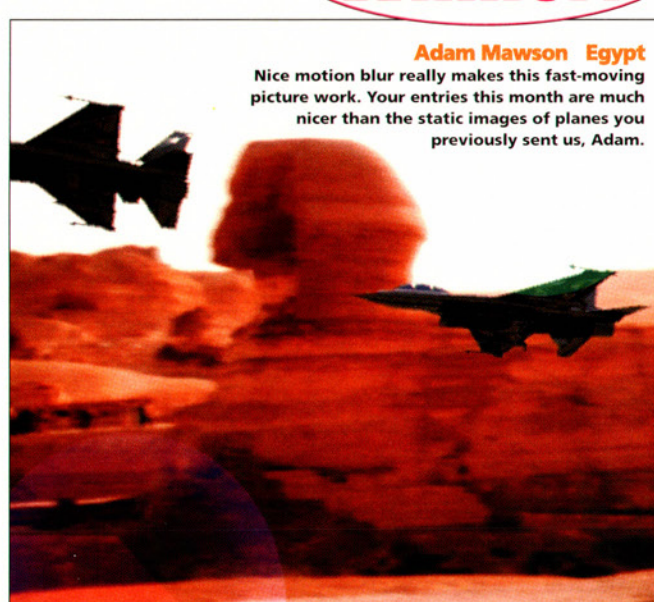
Adam Mawson Not the Kingswood!
Adam wins this month for this picture which is a great composition. The render doesn't quite work (perhaps you should turn down the reflectivity of the bumper, Adam), but it's quite deserving of the prize.

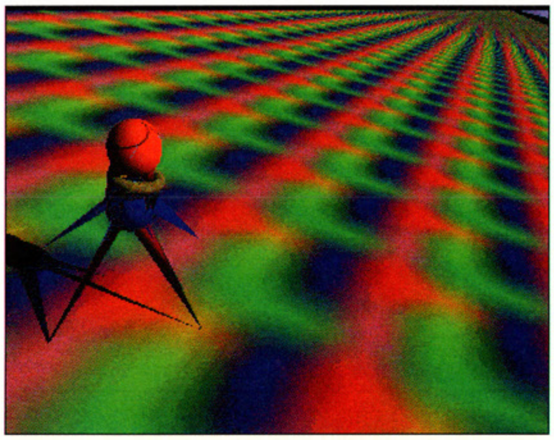


Adam Mawson 20th Century Fox
A nicely observed homage to one of the world's best-known logos. Altogether now, hum the tune and imagine the lights moving backwards and forwards.

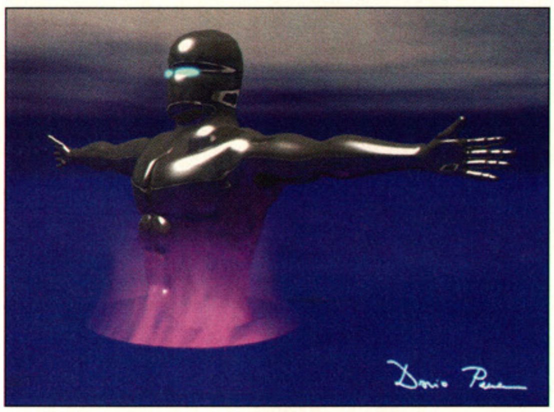


Adam Mawson Egypt
Nice motion blur really makes this fast-moving picture work. Your entries this month are much nicer than the static images of planes you previously sent us, Adam.

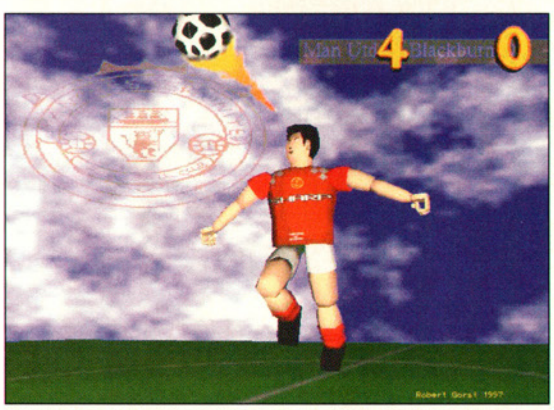




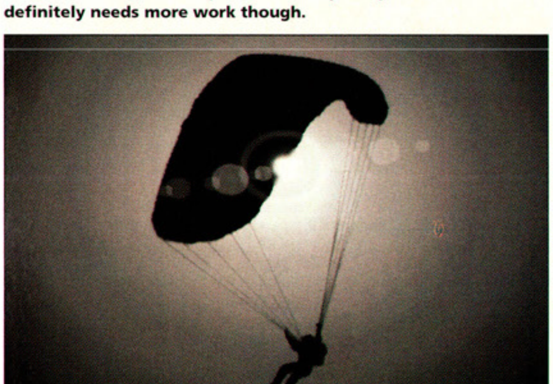
Callum Millican   Alienraytracery
Dead simple and it's quite obviously an early try with a rendering package. We look forward to seeing more work from you, Callum.

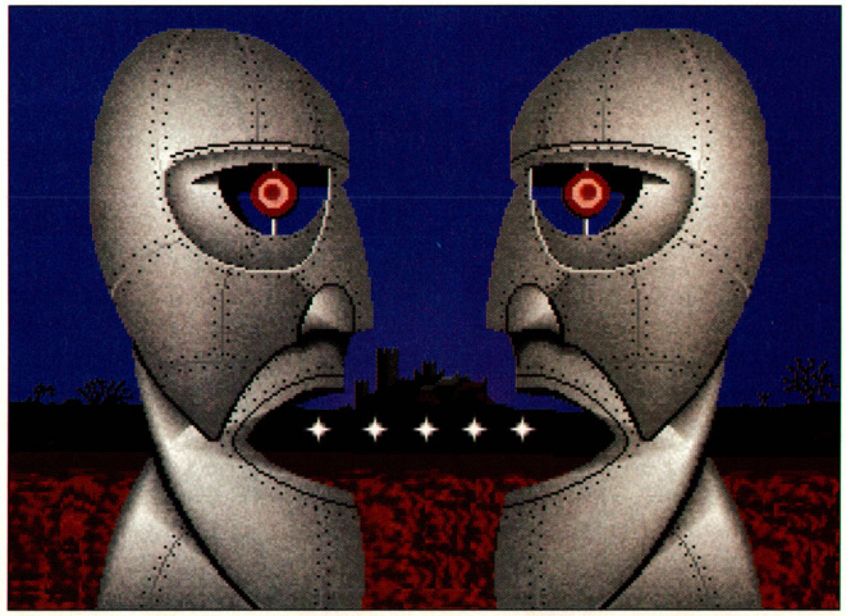


Dario Pane   Infinity
Dario has used *Lightwave 5* for this atmospheric image. The colours are great and the modelling's pretty good too.



Rob Gorst   ManUtd.
Created in a moment of Man U's glory (although they're not doing so well as I write this – they couldn't even beat Barnsley at Old Trafford!) this 3D picture is nicely composed. The football definitely needs more work though.



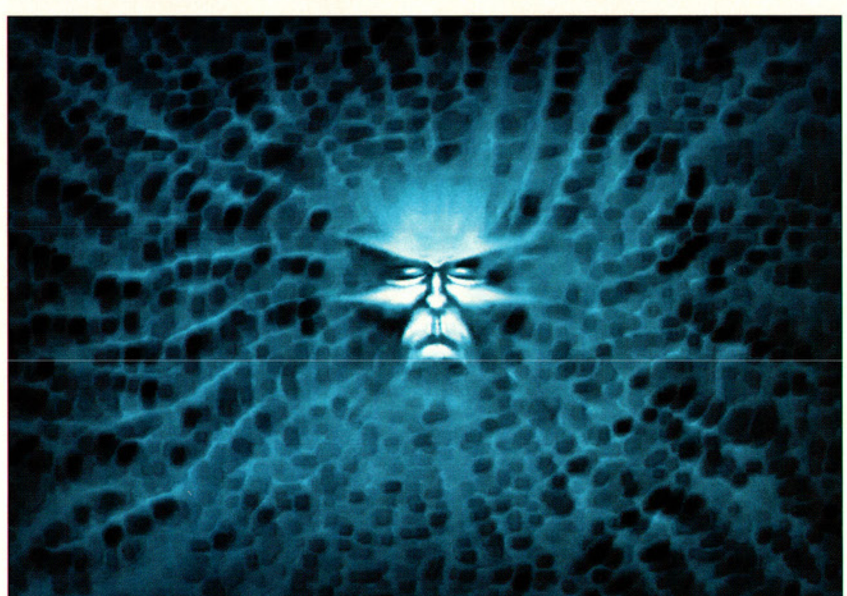


Paul Walker Division Bell
Paul Walker Alley
We seem to be attracting Pink Floyd fans right now with Kris Dom's *Animals* cover last month and now this hand drawn *Division Bell* from Paul. His Alley is nice too and took ages to render!





Daniel Pimley   Attitude
Hmm, not sure if we should let this one in since it's a hand-drawn image in charcoal which has then been scanned. Ah well, it's such a nice picture we couldn't let it go by, but let's see some computer-based artwork from you next time.



James Mellers   Chutist
James Mellers   Implosion
James also did the cracking picture on the cover of our CD. It's a shame he didn't see fit to include his address or any contact details with his entries.



Coverdisc



AMIGA FORMAT

Welcome to our completely new-look ***AFCD25***! Things have changed quite a bit, so do keep up as Ben Vost introduces just what's gone on.

In our continuing bid to make our CD ever better for you, dear reader, we've decided to follow the army maxim of KISS – Keep It Simple Stupid, and reduce the complexity of our CD for you. Instead of the familiar nine drawers and two files visible at the root of the disc, we've cut that down to just six drawers and one file.

The upshot of this is that the drawers have been shuffled around yet again, but I promise it won't happen again unless really necessary. Anyway, just so you can get to grips with it, this is the way things will work from now on:

• +Look_here_1st!+ is gone. The files and drawers that were in it (Reader_Requests, AF_on_the_Web, Handy_Tools, AFCDFind and its indices and the text files) can all be found elsewhere on the CD now:

• Reader_Requests can now be found in -In_the_Mag-

• AF_on_the_Web can now be found through the Ben_Speaks! icon at the root. To browse through the website files, go through the new websites directory at the root of the disc.

• Handy_Tools is now in the new drawer called +System+

• AFCDFind and its indices are all in +System+ too

• The text files are in a drawer called "Info" in +System+

The -PD_Select- drawer has also gone from the root. There was never that much in it really, so it seemed to be a bit of a waste of space in the root. If we have megademos on the CD now, they'll be in a drawer called Demos (and we have this month!).

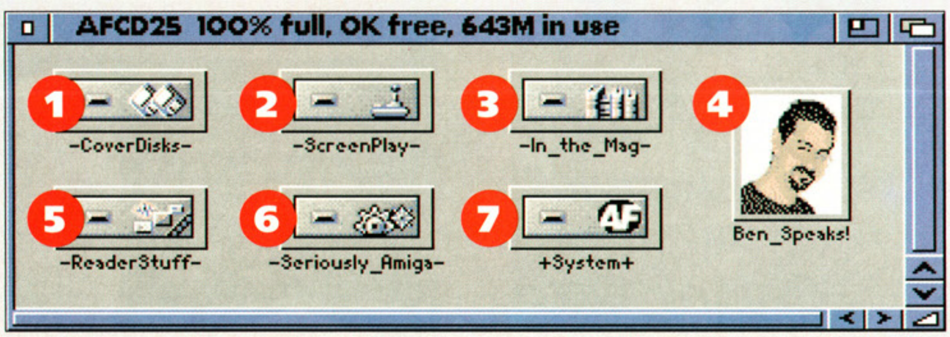
The MUI and Prefs drawers have both been moved to +System+. If you want to install MUI, you can do it from the CD – just use the installer in the MUI_Install drawer therein.

The +AFCD_Setup+ icon has also been moved to the new +System+ drawer. You can still run it, but try the CD without it and you'll probably find that you have no problems.

If you're looking for the web browsers or any of the other viewers we use on the CD, you'll now find them in the Viewers directory found within the +System+ drawer.

Because Simon Goodwin's Emulation series comes to a close this month, from next month the rarely used Program_Patches drawer in AFCD25:-Seriously_Amiga-/Shareware will be replaced next month with Emulators.

I know that this all seems quite complex, but we've worked on it for ages to make sure that it's easier than ever, and started introducing the changes last month with the new style Ben_Speaks!



The new layout of the CD takes a bit of explaining, so here's where things are going to be from now:
1. The Coverdisks drawer is the same as always, only it's now been moved to the top left. Sorry to all those who could click on it blindfolded before.
2. The Screenplay drawer is also unchanged. Here you'll find games-related stuff of all descriptions.
3. The In the Mag drawer is now the hiding place for Reader Requests which have been moved there from the now defunct Look Here 1st! drawer, and demos from the removed PD Select.
4. Ben Speaks has been updated to use HTML, as from last month. You can also browse the websites on the CD through it.
5. The ReaderStuff drawer contains all it did before, it's just been moved.
6. Seriously Amiga is the drawer that contains all that's serious for your Amiga. It'll also hold the Emulators drawer from next month.
7. This is the only new drawer. It contains lots of the stuff from the Look here 1st! drawer. You can also find AFCDFind here and the Prefs directory and lots of other stuff here, too.

READER WARRANT

When you're sending in your submissions make sure you give us an address where you can be contacted.

The address to send your stuff to is:
CD Submissions • *Amiga Format*
30 Monmouth St. • Bath • BA1 2BW

Everything included on the *AFCD* must have a reader warrant with it. Just cut it out off this page, sign it and send it in to us with your submission. A final reminder: if you don't include this warrant we simply won't be able to put your stuff on the CD – and that means you won't be able to have it used by other readers.

In respect of all material which forms my CD Submission to Future Publishing's *Amiga Format*, I hereby warrant that:-

1. The material is original and does not infringe any other material or rights;
2. The material does not contain any material which is defamatory, obscene or indecent and is exempt from classification under the Video Recordings Act 1984;
3. That there are no legal claims against the material provided;
4. That I have full power and authority to provide this material to Future Publishing.

Signature: ______________________________

ReaderStuff

Bit of a mixed bag this month, without the clear cut winner of last month to make things easy for me. There's also not quite so much here to enthrall you, compared to the huge amount we got from you last month. However, the reader prize for £50 has to go to just one person:

£50 AF Winner!

AFCD25:-READERSTUFF-/SÖREN_FORSBERG

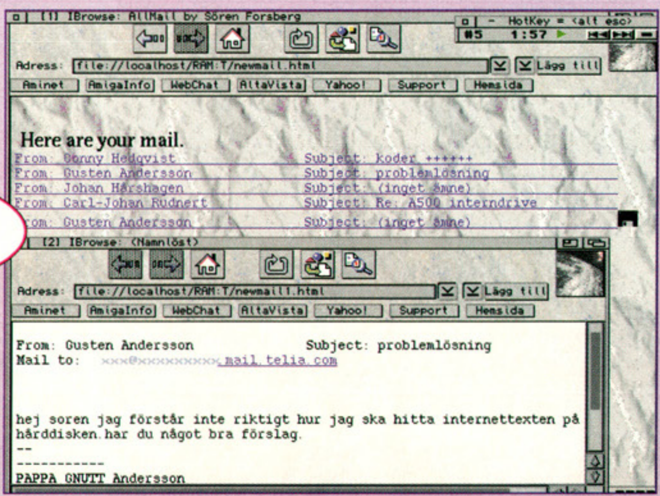
ARexx scripts are something we could do more with as Reader submissions. They really demonstrate one huge advantage Amiga owners have over PC people – that of interoperability between applications. Here you'll find a bunch of scripts by Sören that will add to the power of *IBrowse, YAM* and *PPaint* amongst others.

AFCD25:-READERSTUFF-/BERNARD_CAIN

Bernard was a close runner-up for the prize this month with his simple DTP tool to create business cards. It's an AmosPro program that allows you to enter text into a template which will be printed eight-up on an A4 sheet. My only criticisms of it are that it doesn't allow for any fonts except Topaz and that it's not very tidy. I'll hope to see an updated version soon, Bernard...

AFCD25:-READERSTUFF-/IAN_FIELD

Ian's Comics database should prove handy for those fanboys of you out there. For a start you've got a nice list of Ian's X-Men and Hulk issues!



ARexx scripts aren't often stimulating, so here's Sören's "reading mail with iBrowse" script in action on his machine.

More importantly, however, you can put in important details like crossovers, first appearances and origin stories for each issue without the main interface getting clogged up with detail. It's almost a shame that Ian chose to create this in Amos, linked as it is to low resolution screens and non-standard requestors, since this is one project that could really do with more screen real estate.

I'm not sure if there's anything we can do to further improve the layout of the CD, but if you have any suggestions then you can always mail them to me at: afcdsurvey@futurenet.co.uk, or fill in the slightly updated AFCDSurvey which you will now find in…? Yes, you got it, this month you'll find it in AFCD25:+System+/Info/AFCD_survey.

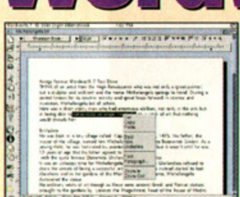
Onto the content of this month's CD then. You'll no doubt have noticed the fact that this month's CD contains a full version of *UFO: Enemy Unknown* for both AGA and ECS machines. The AGA version differs slightly from the ECS one in two respects.

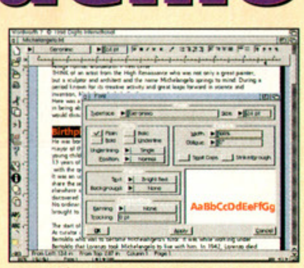
Firstly, the AGA version uses a password scheme to get into the game. You can find all the passwords you need on the inside of the front cover of the CD. Secondly, the AGA version has a proper Installer script, whereas the ECS version has a hardcoded installer – you'll need to know where you want to put the game with this one.

As a special bonus, you'll also find a special offer for two related CDs on the inside front cover of the CD too.

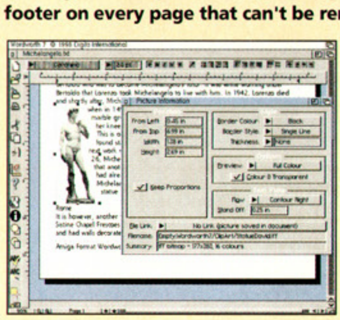
Unfortunately, owing to license restrictions, if you're an American, Canadian, Japanese or South African *Amiga Format* reader then you don't get *UFO* at all – sorry!

Wordworth 7 demo

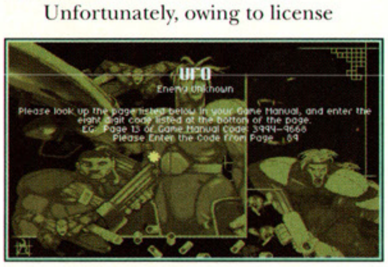




To go with our review of *Wordworth 7* in this issue on page 62, we've got a great demo of it for the CD. It's completely usable – the only things that are missing are the spell checker, and it puts a header and footer on every page that can't be removed, so you can really try it out to see what you think. Don't forget to enter our competition to win your very own copy of it on page 27.



Loads of new features for you to play with. Apart, that is, from the AutoSpell feature, for which you'll have to buy the full version.





Wuhoo! A full game just for you, and possibly the best strategy game ever on the Amiga as well.

READER REQUESTS

Remember, these can now be found in the -In_the_Mag- drawer and there are quite a lot of them this month. We've got hard disk tools, Biorhythm analysers and lots more in there for you, along with the usual Aminet index for you to look through and make further choices of what you'd like to see on our CD.

DATATYPES GALORE!

AFCD25:-Seriously_Amiga-/Shareware/Workbench/-DataTypes-

We've got loads of new datatypes, or at least new versions of datatypes, on the CD for you this month. Not only are there a bunch from Andreas Kleinert, but there's even a PhotoCD tool here for you.

DOOM PORTS

AFCD25:-ScreenPlay-/Shareware/AmiDoom0.7c
AFCD25:-ScreenPlay-/Shareware/amigadoom-1.10

We have two new versions of *Doom* on the CD here for you to try out. *AmigaDoom* is the one that needs the most ancillary files, including AHI and ixemul.library, so you might want to try out *AmiDoom* first.

Continued ➡

At your fingertips

Taking a casual cruise around our CD will reveal any number of interesting bits and bobs. Here are just some of the things you may find:

PMPRO DEMO

AFCD25:-Seriously_Amiga-/Commercial/PicManager

Picture Manager Professional, to give it its full title, is an image cataloguing program that comes from Blittersoft. This new demo has loads of additional features including support for new graphics formats including FAXX and IFF-DR2D and PowerPC support. It should run fine from the CD, but make sure you run the assigns script first.

AMIRC 2

AFCD25:-Seriously_Amiga-/Shareware/Comms/Other/AmIRC_20

AmIRC is the world's best loved IRC client, and not just for the Amiga. This long-awaited version 2 has many improvements over the original version, including new "tray" windows, lag meters and much more.

3D OBJECTS

AFCD25:-Seriously_Amiga-/Shareware/Graphics/-3D_Objects-

We've got some great 3D objects on the CD for you this month, particularly for lovers of SF shows on TV. If you would like to see what the Dave Charnow ones look like without having to load them up, his website's on the CD too.

4-WAY IDE INTERFACE

AFCD25:-Seriously_Amiga-/Shareware/Hardware/4IDE

If you're competent with a soldering iron and you feel restricted by the usual 2 IDE device limit, why not make your own by following the instructions presented here? Obviously, you do so at your own risk.

BITMAP FONT EDITOR

AFCD25:-Seriously_Amiga-/Shareware/Misc/Typeface

You won't have call for a bitmap editor that much these days, but this one is great! We've used it several times now to update the FuturaB.font to give it characters it was missing before like the vertical bar (|). It's good-looking, easy to use and has plenty of features to keep you happy.

SNAKE IN THE GRASS?

AFCD25:-Seriously_Amiga-/Shareware/Programming/Other/Python_1.4

If you fancy yourself as a bit of a programmer and you like the sound of an interpreted, interactive, object-oriented, extendible programming language which provides an extraordinary combination of clarity and versatility, is free, and runs on Unix, PC, Macintosh, and many other systems along with the Amiga, then you should have a look at Python. 'Nuff said I think.

THEY'RE EVERYWHERE!

AFCD25:-ScreenPlay-/Shareware/whool

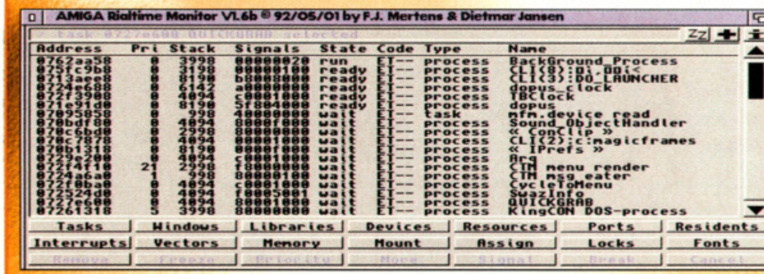
← Here's a fun little game. Sure, it's not on the same level as *Doom*, but it's fun nonetheless. Shoot the Whools in a 3D monster maze and that's basically it.

SPOTLIGHT ON A HANDY TOOL!

ARTM

ARTM is one of those tools that you find out about by accident, usually while looking for a CPU monitor. It's not the only one around – you could use SIP by Andreas Kleinert, but it's what I would call "comfortable". It does what it needs to and it does it well. As for what it does, well it allows you to fiddle around with things you're not supposed to. Its most useful function is to close down things that have crashed.

You can use ARTM to close the crashed program's windows, task, close any devices it has locked and so on. Anything that'll put off a full-on crash is good in my book, and if you can make things tidier by closing down windows that don't work any more, then so much the better.



ARTM is jolly handy but fiddle with it at your own risk.

FLICK THAT PEN!

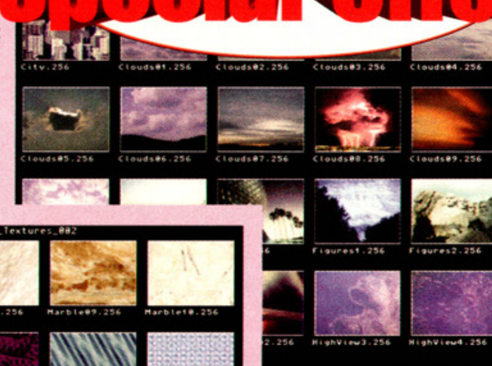
AFCD25:-ScreenPlay-/Shareware/Classic_Racer

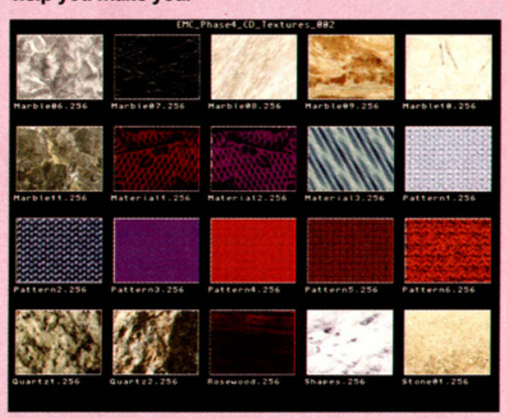
And here's another you might remember from your schooldays. It was a boring afternoon in a free period, or your teacher was away for a bit, so one of the gang got out his exercise book, drew a winding track on a page and you all tried to flick your pens around it in the fastest possible time. This simulates that heady experience using a joystick instead of a pen and it doesn't leave any unsightly ink blotches down the front of your school uniform.

AF Special Offer!

PHASE 4

EMC were very pleased with the response they got from the clipart we ran at Christmas time from *Phase 3*, so they decided it would be good to offer *Amiga Format* readers a special price on *Phase 4* too. To help you make your decision on it, look in the EMC_Phase4 directory in the -Seriously_Amiga-/Commercial drawer and you'll see samples of backgrounds, buttons, fonts and more.





Indexes and examples of just some of the stuff you can get on *Phase 4*.

DISCLAIMER

This *AFCD* has been thoroughly scanned and tested at all stages of production. We recommend that you always run a virus checker on ANY software before running it. Future Publishing Limited cannot accept any responsibility for disruption, damage and/or loss to your data or your computer system which may occur while using this disc, the programs or the data on it. Ensure that you have up-to-date backups of data contained on your hard drives before running any new software. If you do not accept these conditions, do not use this disc.

DISC NOT WORKING?

If your *AFCD* is defective, please return it to the address below. Please make sure that you have followed our installation procedures correctly to ensure that there is no physical problem. Please send us the *AFCD* along with a description of the fault (not forgetting your name and address). A new working version should be returned to you within 28 days. The return address for faulty discs is:

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Your *AFCD* should only need replacing if the CD itself cannot be read. If, instead, you are experiencing problems with an individual application, phone our technical support line. This is open between the hours of 2pm and 5pm every Tuesday.

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Fax: 01225 732341
email: amformat@futurenet.co.uk
("Coverdisc" in the subject line).

Please note that the helpline staff provide assistance with technical problems directly related to the CD and cannot provide training on the software or hardware in general.

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CU Amiga "Amiga Superstar" Feb 1998

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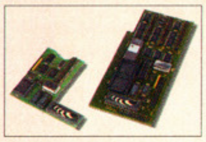
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RAM CARDS A1200

A1200 with clock and 4Mb *(not upgradeable)* £40.00
A1200 with clock 33MHz FPU and 4Mb £50.00
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New GI-Quatro Buffered Interface for A1200

Buffered interface for A1200 with full IDEFIX'97 software allows you to connect 4 ATAPI devices to A1200 Comes with two 40 pin IDE cables and one 44 pin IDE cable £39.95

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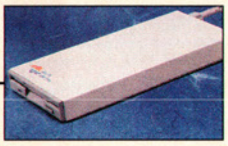
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Winner of Gold Format Award in Amiga Format February 1997

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SCSI Hard Drive 4.3Gig .... £259.00 Best Price
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All 2.5" Hard drives come formatted and installed with Workbench, including IDE, cable, screws, software and instructions. *(please check for availability)*

170Mb .... £59.00 *Starbuy*
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We will partition and format Hard drives and install Workbench. *5.1Gig will fit and work on Amiga Computers contrary to warnings given

(Amiga Format Gold Award winner August 1997)
(Amiga Format Gold Award for 3.8Gig January 1998)

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Serious disk



AMIGA FORMAT

David Taylor introduces the king of Workbench extenders and the latest version of the movie maker.

MultiCX 2.80

This month we've included the latest version of the most compact and powerful Workbench enhancement package.

The program itself will run on either Workbench 2 or 3 machines (there are different versions for both and both are included). There is also a preferences program that is a separate entity and this is included, but requires MUI. If you aren't running MUI or are running from floppy, then you can edit the preferences manually in the program's tooltypes.

The program comes with its own installer, but if you want to install the program manually, or you don't have Installer, all you need to do is copy the *MultiCX* program and icon from the drawer into your WBStartup drawer. This ensures that the utility starts up every time you start your Amiga.

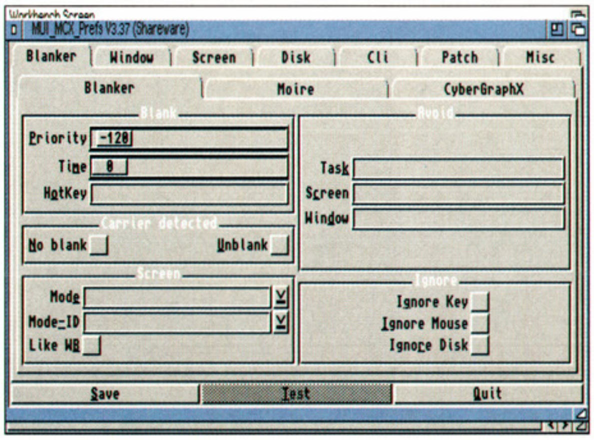
There is also a CLI command called HandleCX that you can copy to your C: directory. This is a CLI command for controlling commodities (a CLI replacement for Exchange really). To change the Preferences for *MultiCX* you can use the Preferences program and it will allow you to change all the features we are going to describe by using a nice friendly GUI.

To change the preferences manually, go to the drawer where you have installed *MultiCX* (WBStartup by default) and click on the program icon. Then select Icon Information menu from the Workbench menus.

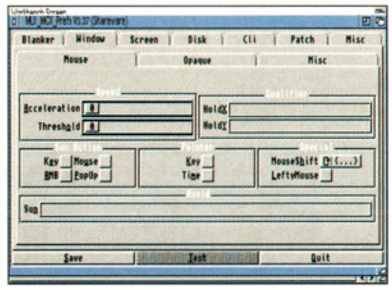
You will now see that there are a set of Tooltypes for the program. Click on the one you want to change and add in the parameters as detailed below.

When you change a preference you need to press return to ensure the change is registered and then save the changes by clicking on the Save button. Any changes you make to the Tooltypes will be recognised by the program when you save the changes, and will be available immediately with no need to restart the commodity or re-boot.

> "... you can use the Preferences program... to change all the features using a nice friendly GUI."



The MUI Preferences program for *MultiCX* allows you to set up a screen blanker with all the parameters that are available in the Tooltypes.



The mouse enhancements are also easily accessible using the preferences package. The tooltypes can be adjusted by using the tick boxes.

INSTALLATION

The programs on this disk can be installed to floppy disk or directly to hard drive. This can be done by booting this disk (you must boot this disk to install the games disk too, as several files had to be shared across the Coverdisks for reasons of space). If you want to install to a hard drive, you can also install everything by simply booting your hard drive and inserting this Coverdisk and opening it, then double click on the Unpack icon. Note that the *MultiCX* Preferences program and the DirectoryOpus icons will only be unpacked if you unpack to a hard disk because they need one to run.

FUNCTIONS

Here is a list of *MultiCX* features, although more are available – see the docs for more details. In the features "n" refers to a number appropriate to the feature (seconds, amounts, etc).

SCREEN BLANKER

There are two types of screen blanker which are built into *MultiCX*. The first is a fairly simple one and is invoked by using the tooltypes:

- SCRBLANK=n (n is the number of seconds of inactivity before the screen should blank. 300 is a good average)
- HOTBLANK= Qualifier&Key (a control key like "Ctrl" and a keyboard key like "b" to allow you to blank the screen immediately). There is also a Moire blanker that will draw lines across the screen and animate them
- MOIRE LINES=n (number of lines)

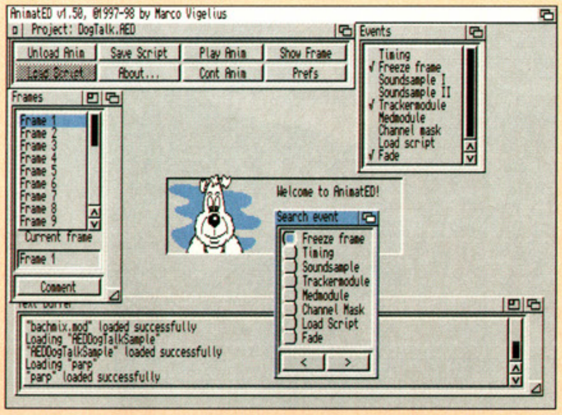
MOUSE ENHANCEMENTS

MultiCX offers a variety of ways in which the mouse handling can be improved, including using a three button mouse:

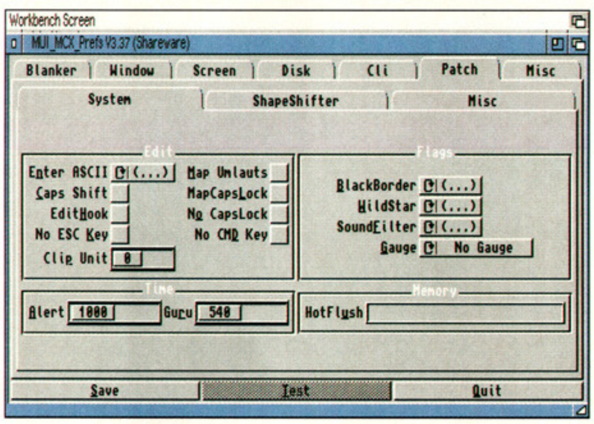
- ACCELERATION=n (sets the factor to accelerate mouse movement by)
- THRESHOLD=n (to ensure you can do intricate work without the pointer zooming off, you can set the threshold of minimum pixels movement required before acceleration starts)

ANIMATED 1.5

This is the latest version of the program that allows you to take an existing animation created in an animation package and add events and sounds. The interface is easy to use – simply select a frame and choose an action. This new version has various fixes and new features as well as a slightly redefined interface. Included in the package is a playback utility so that you can play back your movies without having to have the *AnimatED* program loaded.



The Shareware movie maker has a slightly enhanced face as well as new features and bug fixes. Read the docs for full details and more information.



Change the advanced features of Workbench with *MultiCX*. Make sure you read the documents thoroughly before enabling some options.

- KEYBLANK (sets the mouse pointer to be blanked when you start typing)
- LEFTYMOUSE (switches the mouse buttons over)
- SCRCYCLE=MMB/BMB (If you have a middle mouse button you can set it to cycle through the available screens by using the MMB parameter.

If you don't have a three button mouse, you can set the option to be activated when both of the mouse buttons are pressed instead by using the BMB parameter)

- MOUSESHIFT=RMB/MMB (allows you to select multiple icons easily using either the right or mid-mouse button.

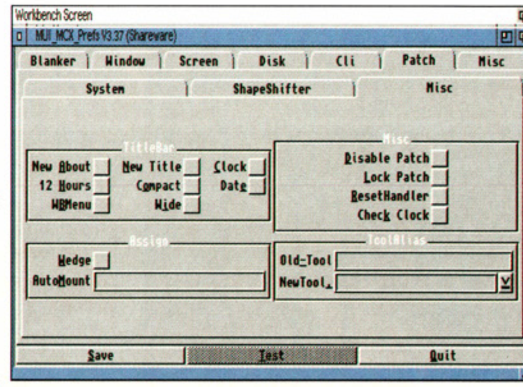
When set, click on the first icon you want to select and then hold the mouse button down. Click and hold the qualifier button (right or middle) and then let go of the left button and click on the other icons. Finally, release the qualifier button)

- SUNMOUSE (activate the window when the pointer moves over it)

WINDOWS ENHANCEMENTS

The *MultiCX* program can adjust the way the handling of individual windows works:

- WINCLOSE= Qualifier&Key (lets you use the keyboard to close the active window)
- WINZOOM= Qualifier&Key (keyboard can minimise or expand windows, like clicking on the Zoom gadget at the top right of windows)
- WINREMEMBER (remembers the last window active on a screen and reactivates it when switching back to a screen)
- WINCENTER= Qualifier&Key (keyboard can centre the active window in the middle of the screen)



This screen gives you all the interesting and useful Workbench operating adjustments for better titlebars and menus.

OS ENHANCEMENTS

You can also adjust some of the underlying features of the Amiga.

- HOTFLUSH=Qualifier&Key (keyboard can flush unnecessary data from RAM)
- NOCLICK=1 (sets the floppy drives to not click)
- WILDSTAR=1 (changes the wildcard setting so that * works in place of #?)
- RESETHANDLER (this ensures that nothing survives a reset – CTRL, LAMIGA, RAMIGA. This is useful for virus protection and kills any RAD disks you have created, which is great if you only want RAD disks for de-crunching)
- ASSIGNWEDGE (when a volume that isn't mounted is requested a directory requester will open. This will let you choose one to assign a volume to, rather than the "Please insert volume x in any drive" requestor.)
- NEWLOOKMENUS (changes menus on public screens to New Look menus)
- WBTITLE (changes the Workbench titlebar into a new enhanced version. From left to right it will now list: OS version, chipset, free chip RAM, free fast RAM, number of tasks opened, the number of libraries opened and number of screens open)
- WBABOUT (enhances the About information supplied by the Workbench About menu item. It now shows the Operating System, CPU/FPU, cache status, memory status. It also has new buttons for Flushing RAM or Rebooting)
- CLOCK (a digital clock is added onto the titlebar)
- DATE (adds date to titlebar)
- COMPACT (compacts information in the titlebar for those who only have low res Workbenches)
- SCREENMENU (a new menu is activated when right clicking on the swap screen gadget at the top right of screen. You can choose a screen to activate from the menu).

MultiCX is Shareware and has additional features for registered users. If you use it often you should register. Send US $20 plus a $5 cover charge if you send a Eurocheque to: Martin Berndt, Fr-Alfred-Str. 115, 47226 Duisburg, Germany. He can be e-mailed at m_berndt@wanderer.gun.de.

DIRECTORY OPUS 5 NEWICONS

This is simply a complete set of new small icons for use within DirectoryOpus 5. You can use these new-look icons to replace the ones used by the program. All the icons are stored within a single drawer and you can access them from there.



The NewIcons supplied for Directory Opus 5 by this collection offer an entire set of replacements for the originals.

Games disk

AMIGA FORMAT





This month there's a full game for floppy users too. David Taylor introduces the bombing mayhem that will have you and your friends in a frenzy.

Blitz Bombers

This game has been waiting for release for over a year now and the creators have decided that the best way to do it is to supply it as is to the Amiga community.

It's an amazing game that can be played by one to four players, with or without the computer making up the numbers. As you'd expect from a polished game, there are different game types and plenty of options for each to make sure it has the long term appeal needed to be labelled a veritable classic.

> "Your aim is to make sure you are the last person standing. To do this you need to blow up your opponents."





The bright and colourful screens on which you get to blow your friends to smithereens.

GETTING STARTED

Once you have the game installed, simply load it by double clicking on the Game icon. When it has loaded you can choose menu items using the joystick. If you want to start playing straight away then just click on the One Player game and you're ready to begin.

In this mode you have to win your way through the levels, with each level appearing as part of a larger map or scenario. To complete a level you have to accomplish a particular mission, which can be anything from reaching the exit to finding some items.

In all versions of the game the controls are the same. Move your player around the screen with your controller (the joystick by default). Many of the avenues will be blocked and you'll have to clear the way by dropping bombs. To drop a bomb, go to the square next to the obstacle and press the fire button.

These bombs can kill you too, so run away to a safe distance. When they explode, they will destroy any disposable object next to them in any direction. If there isn't an object in the way then a flame will explode outwards.

The number of squares over which a bomb is effective depends on the firepower you have, and this can be altered as a game option or by picking up power-ups.

In a single player game this doesn't matter too much, but when you start playing against opponents then the further you can blast, the better your chances of catching them out. The bombs only explode in straight lines horizontally and vertically and don't go round corners, so the best method is to drop a bomb and hide round a corner while it explodes.

The levels consist of more than simple corridors blocked with destructible objects though. As you play you will find tunnels you can go through and teleports you can use. As you complete each level you'll get a symbol password to allow you to get straight back to that level. By default not all the scenarios are enabled, but you can change that easily enough.

MULTI-PLAYER

On the main screen you don't have to play a single player game. You can choose from a Battle Game, Grudge Match or even to play against another player on a separate Amiga using a serial link. If you choose to play one of these multi-player games then you can either play against friends (you'll need extra joysticks and a convertor to get four people playing simultaneously) or you can make the Amiga play.

If you want the Amiga to play then choose the game type, press fire to choose your player and then press the number on the keyboard that corresponds with the player number you want the computer to play (1-4).

The Amiga can play all three other players if you want – just press all three numbers. If you want the computer or friends to join in, you have to press the buttons within ten seconds, after which the players that have joined will start the game. If only one player has signed up then the screen will default back to the main screen.

If you click on Configuration you can change the game options: **Power Ups** – choose which power ups you want to allow in the game. You can remove the ones that you think make the game too easy or too difficult.

INSTALLATION

The game requires a minimum of an A1200 with a hard drive. To install it you will need both Coverdisks. You can either boot the Serious Coverdisk and follow the instructions there or you can boot from your hard drive then open the Serious disk and double click on the Unpack icon to unpack the programs from both disks onto your drive.

Map Config – Choose which scenarios and maps are used in the game. Each scenario refers to a type of map (Arctic, Egyptian, etc) and you can cycle through these by selecting the button and flicking left and right on the joystick. The maps are the individual levels that are available in that scenario.

To enable or disable a scenario or a map, just press fire when it is shown in the preview window. Any ones that are not used will have the word "Disabled" across the picture.

Player Config – There are four players with different colours. Each player can be set for a different level of aptitude so that their bombs are better or worse. You can set one of the defaults from Awful through to Pro or adjust each feature individually for better bombs, shields, etc.

Global Config – Alter the general features of the game like Computer players, Dud bombs, etc.

Subgame – Decide which of the four available sub-games should be allowed.

Load/Save Config – When you change any of the features, you can save the config to enable you to have different configurations for different people.

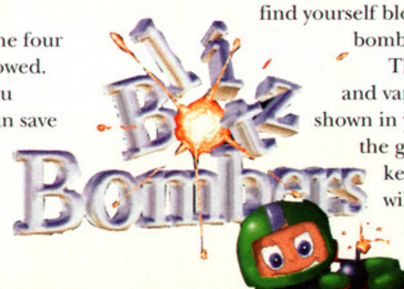
When you are playing with multiple players your aim is to make sure you are the last person standing. To do this you need to blow up your opponents. As it's impossible to walk through bombs, the best bet is to trap them, then box them in with a bomb and run off.





The game offers various missions for you to try to accomplish (top right) or you can just try to blow your friends into little chunks (right).

It is when playing against opponents that the length of firepower of a bomb becomes important. You may also be able to catch people before they can get out of range. One thing to watch out for is other players picking up power-ups as some of them make all bombs on the screen explode immediately, so you may find yourself blown up when laying a bomb.



The power of your bombs and various other features are shown in your stats at the top of the game screen, so always keep an eye on these. They will improve when you get appropriate power-ups. Bombs away! AF

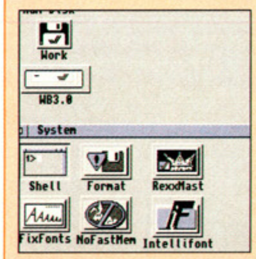
POWER UPS

The following descriptions run through the power ups left to right, taking the rows top to bottom. 1) Extends flame length of bombs 2) Boosts bomb's flame length to maximum (8) 3) Extra bomb to drop 4) Boosts bombs available to maximum (8) 5) Freezes all bombs on screen except yours 6) Creates random destructible block on map 7) Forces all players to drop a bomb 8) Makes all bombs explode except yours 9) Random power up 10) Causes other players to stop where they are and read a newspaper for a few seconds! 11) Dims screen 12) Brightens screen 13) Increases your speed for 10 seconds 14) Slows other players down for 10 seconds 15) Makes you invisible for 10 seconds 16) Teleport 17) Increases shield power 18) Reduces other players' shields by a factor of one 19) Full shield power 20) Go to bonus game at end of level 21) Gives ability to throw bombs 22) Turns bombs into destructible blocks 23) Changes other players to a random colour to confuse them 24) Reduces other players' bomb fuses 25) Increases other players' bomb fuses 26) Swaps two players around (random) 27) Makes other players drop bombs automatically whenever they can 28) Stops other players from dropping bombs 29) Shortens other players' flame length 30) Laser bomber suit for hefty firepower 31) Gives you a gunsight for assassinating other players 32) Reverses joystick controls for other players.

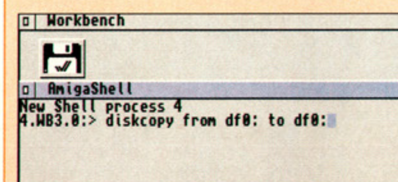


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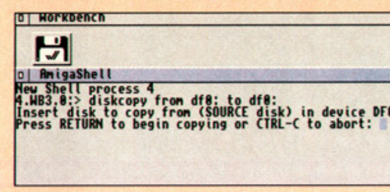


1 Boot up with your Workbench disk and find the Shell icon, in your system drawer. Double-click on this to go into the Shell.

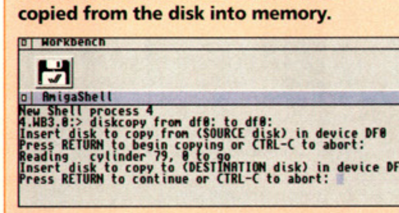


2 Type in the following line (with a zero, not the letter O), taking care to put the spaces in the correct places:

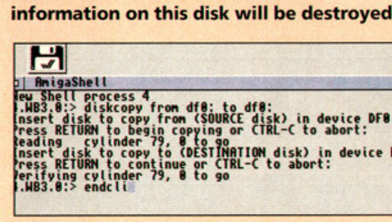
DISKCOPY FROM DF0: TO DF0:



3 When asked for the Source disk, insert your write-protected Coverdisk and press Return. All of the info on this disk will then be copied from the disk into memory.



4 Once your Amiga has read the info, it will ask for the Destination disk. Insert it and press Return. All information on this disk will be destroyed.



5 On an unexpanded machine, the Amiga may ask for the source disk again, because it copies in chunks. Finally, type endcli to close down the Shell.

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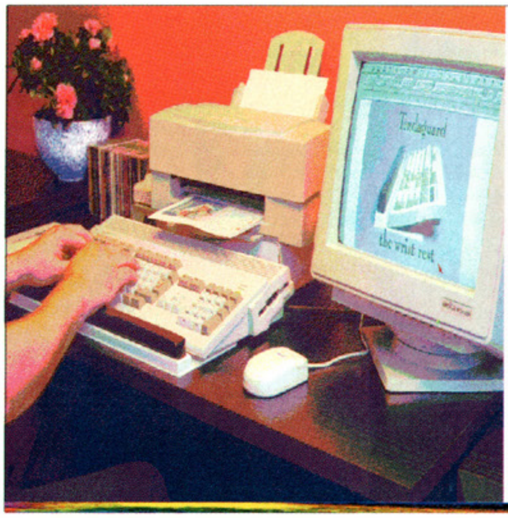
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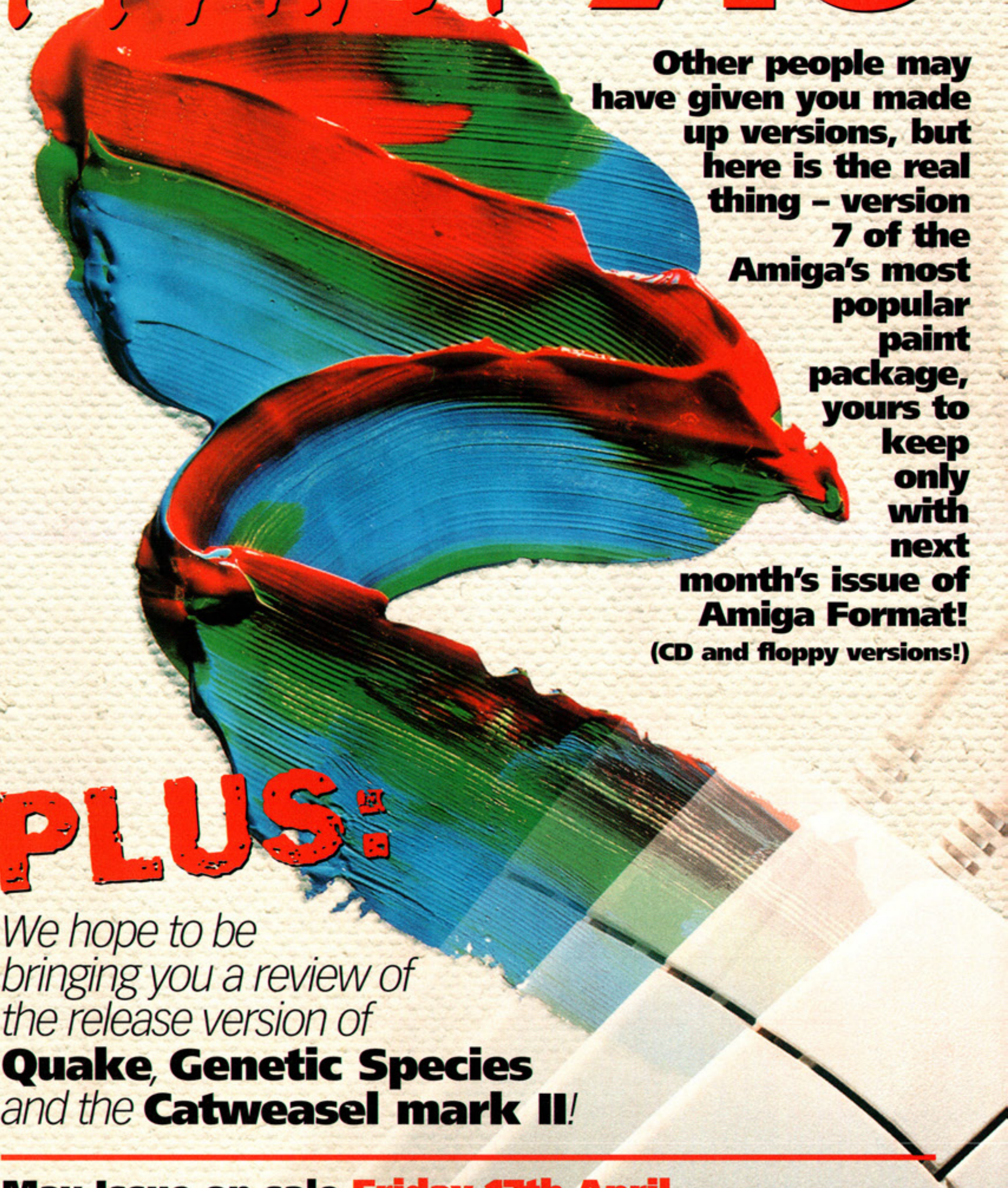
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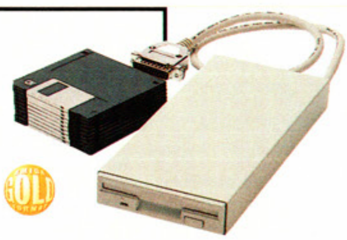
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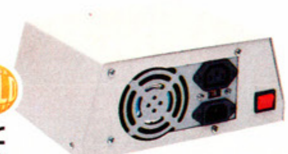
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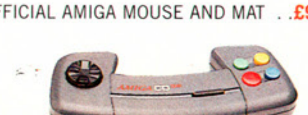
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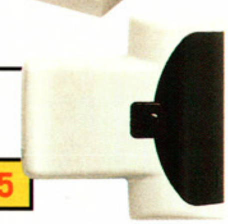
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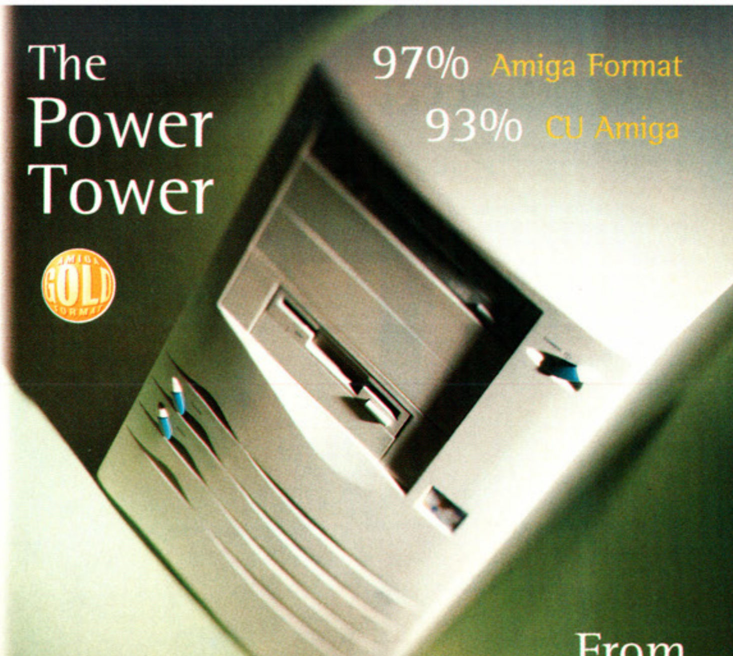
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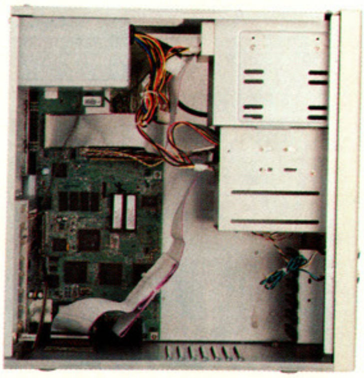


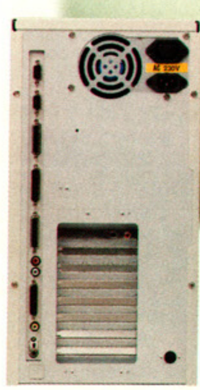


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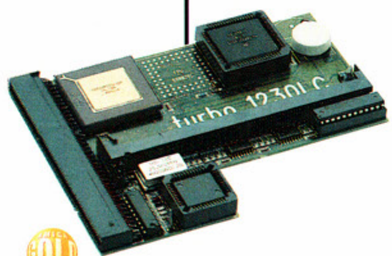
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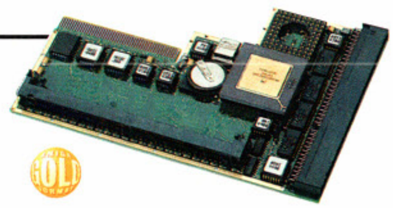
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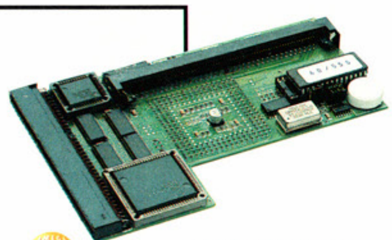
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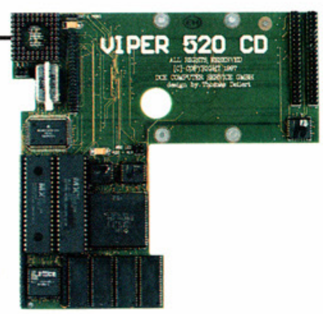
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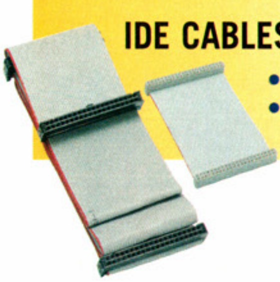
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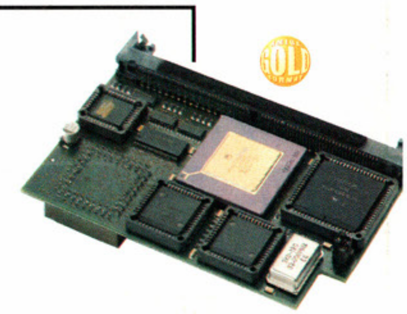
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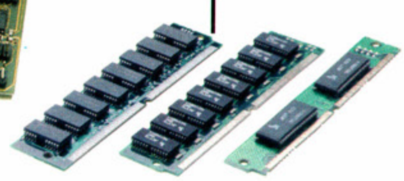
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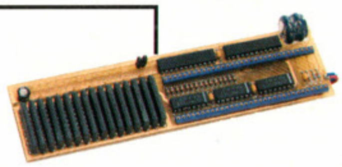


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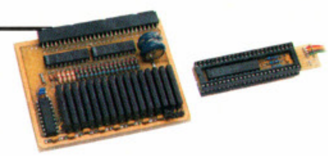
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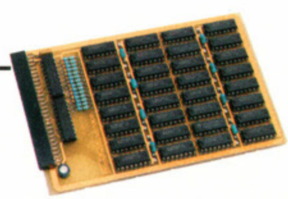
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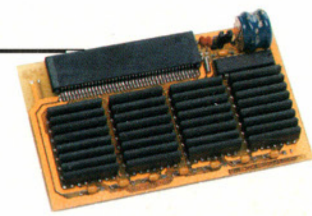
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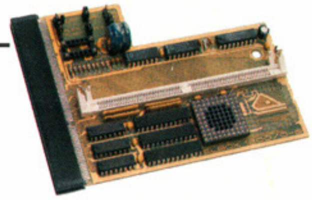
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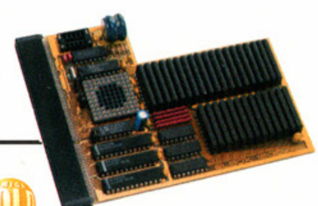
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